HYGEIA

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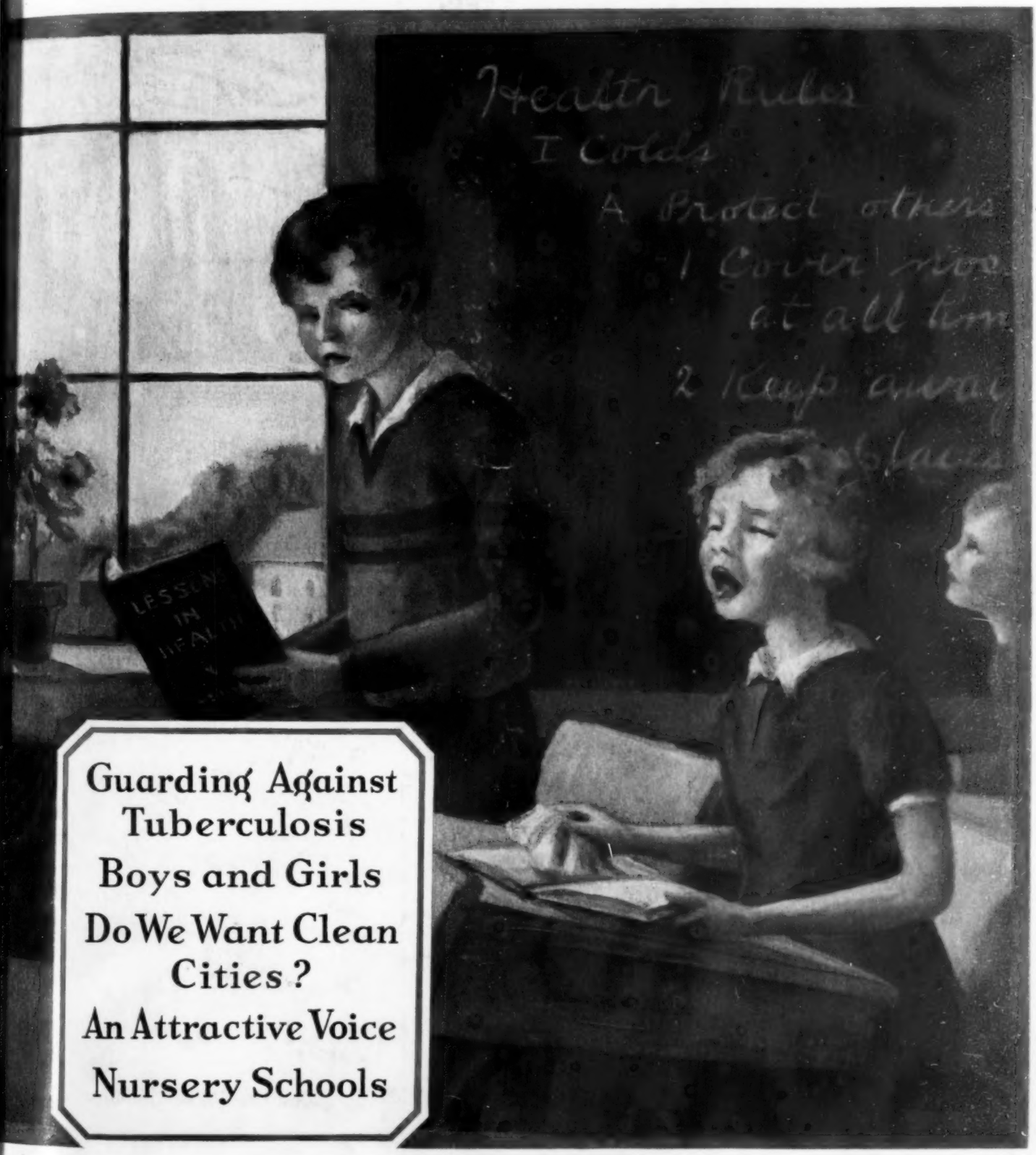
The HEALTH MAGAZINE

PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION



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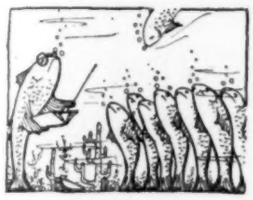

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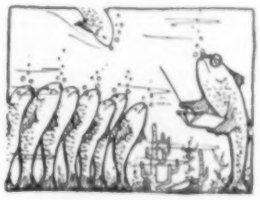

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DR. CLAUDE LILLINGSTON tells of the life and work of Baron Shibasaburo Kitasato, discoverer of the bacillus of plague. . . . FLORA STROUSSE is vice chairman and acting supervisor of the health extension department of the Community Health Center of Philadelphia. . . . DR. MILTON H. SHUTES portrays the havoc which the war years worked on the mind, body and nerves of the great humanitarian, Lincoln, and describes the pathos of those heavy, heart-breaking days before peace was established.

GEORGE ALBERT SOPER puts the question of municipal cleanliness squarely up to the public as he asks, "Do We Want Clean Cities?" . . . DR. J. A. MYERS of the University of Minnesota describes the ounce of prevention that protects children from tuberculosis. . . . JESSIE C. FENTON, a previous contributor, pleads for intelligent treatment of behavior problems and a sane attitude toward child guidance clinics.

DR. ESTHER I. MCEACHEN, a midwestern pediatrician, gives the results of a question box on child welfare. . . . RUTH SAWTELL WALLIS is instructor in sociology, Hamlin College, St. Paul. . . . ALINE MORLEY BALLARD, a previous contributor, tells the importance of cultivating good speech manners, which will prove invaluable assets to the child and will be of great help to him in later years in his business, social and domestic relations.

CALVIN GODDARD, director of the Scientific Crime Detection Laboratory, describes the valuable work done by the microscope in scientific crime detection. . . . NELLIE G. HERRIMAN concludes the adventures of Snickles and Snortles, the circus twins.

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Unqualified Practitioners of Healing

An Editorial

TWO STATE supreme courts have recently promulgated decisions in cases which afford valuable insight into the manner in which incompletely educated practitioners of various branches of the healing art victimize the public. The incompetent practitioner is a menace not only because he fails to relieve the conditions which he undertakes to treat but also because his ministrations serve to interfere with the application of scientific methods.

Recently there have appeared throughout the United States various concerns for the treatment of defects of vision. Some have been called "The American Society for the Conservation of Vision." Thus the promoters have endeavored to conceal the fact that the practices carried on are for profit. Many of these shops have been promoted with the slogan "Throw away your glasses and have perfect sight." They have utilized the radio chiefly in securing their patients.

ONE OF the offices of the American Society for the Conservation of Vision was maintained in Milwaukee under the management of a man named Nickel. To that office came a woman, accompanied by a friend. The manager was introduced as "Dr." Nickel, and he undertook various examinations of the eyes of the two women. Then he provided them with charts containing dots and letters to be used as exercises for the treatment of the eyes. An investigation revealed that Nickel was not licensed in Wisconsin to practice either medicine or optometry and that he did not have the certificate of registration required under the Basic Science Act. Wisconsin is one of the states in which the Basic Science Act provides a minimum standard of education for all who propose to heal the sick. The supreme court pointed out that Nickel had unlawfully treated the sick for a consideration, that the patients who came to him actually had diseases, that the methods which he used could be considered treatment of disease, and finally that Nickel had held himself out as a doctor and had not corrected the impression that he was a physician when introduced in that manner by the office attendant.

The method which proposes to treat a defect of vision by exercising the eye and by discarding the lenses which have the value of making good the defect is like kicking the crutch from under a cripple who needs it to walk. Sometimes by an extraordinary effort the cripple can proceed without the crutch, but such effort is more likely to injure his weakened limb than to help it.

IN NEBRASKA a woman who had had a breast removed because of cancer consulted an osteopath. She had pains in her hip joint and in her right leg. The osteopath bent the patient's knee firmly upward toward her body, pressed his weight on it and twisted it, and the femur, the large bone of the thigh, broke in two. When x-ray pictures were taken, it was found that the fracture of the bone had occurred at a point invaded by cancer. The woman sued for damages from malpractice and when she received a verdict in her favor, the osteopath appealed to the supreme court. He claimed that the verdict against him was unjust because a physician had been permitted to testify on behalf of the injured patient. The supreme court ruled, however, that any person who purported to treat the sick had to know something about cancer. A physician of any school, said the court, on learning that an entire breast had been removed "for lumps," would suspect that there had been a cancer and would know that a cancer might develop in the bones of such a patient. He would know, too, that if a cancer had developed in the bones of the patient, the bones would be weakened and could not bear the pressure of twisting and manipulation that it might be possible to use on the bones of another patient. "To make a skilful and careful diagnosis of the trouble from which the patient is suffering is one of the fundamental duties of a physician. If he fails in that regard and damages result, he is answerable for them."

Physicians who must undergo a long course of study, before they undertake to treat the sick, have long contended that there must be a minimum standard of education for every one who proposes to diagnose and treat disease regardless of the method of treatment that is used. The failure of the osteopath to recognize cancer and to realize that it may develop secondary growths in other organs led him to break the bone in his patient's thigh.

The human body is indeed far too complex and too delicate a mechanism to be submitted to uneducated, incompetent and careless practitioners. Two supreme courts have seen the necessity for protecting a public which apparently is not yet sufficiently informed concerning the human body in health and in disease.

"WHY Doesn't He Act That Way at Home?"

The Nursery School Offers the Answer to Puzzled Parents

By ELIZABETH S. FERGUSON

Four year olds may help prepare their own dinner.

IT MAY as well be admitted in the beginning that we were not completely sold on the nursery school idea when our son started. For "problem" children, yes. For certain other types of children, yes, although we had an extremely hazy idea about the "other types."

But our Junior seemed to be a normal boy. With the guidance of an excellent pediatrician and a few good books on child care we had surmounted the feeding and sleeping problems with which he had presented us. He enjoyed playing with other children and got along with them as well as did most 3 year olds. True, he seemed to prefer to play with children a year or two older than himself and found it difficult to amuse himself when alone, but we tried to be sensible, and we decided that he would learn to play if we provided him with the proper materials for play.

By the time he was 3½ years old, we began to consider sending him to the nursery school. He was not making much progress in learning to play, and the demands of his little sister, now 1 year old, made it difficult for me to spend as much time with him as I had. And finally, the family correspondence seemed to indicate that our home would have considerable company during the summer months.

After a family consultation I called on the nursery school and discussed the matter with the psychologist in charge. I had many questions to be settled, but the one that worried me most was the possibility of overstimulation. The psychologist thought that Junior would be in no more danger of overstimulation in the nursery school than he would be at home if he played with children of various ages on the street.

I smile to myself now, as indeed the psychologist must have smiled at the time, when I think of that question, for I doubt whether there ever was a home as calm, as peaceful, as happy and carefree as the nursery school. I doubt whether there ever were parents who have the patience with little children or the faith in their natural goodness that the nursery school attendants have. And now, after two years, having had two children in the nursery school, I cannot by the widest stretch of my imagination fancy a child being overstimulated in a nursery school managed as "our" school is.

So during the daily contacts with the school (the parents take entire responsibility for the transportation), the occasional conferences with the staff and the introduction by the staff to many excellent books, it was inevitable that we, as parents, should learn a good deal about all children in general and ours in particular.

Learning to play with other children has been the possible benefit from nursery school that has been given the most publicity, but I am a little doubtful, certainly as far as Junior is concerned, whether that is the greatest benefit. He

needed to learn to play, just to play and most especially to play by himself. One has only to look about and note the number of adults who do not know how to amuse themselves when left entirely alone to wonder whether it is not quite as important to learn to play alone as it is to play with others.

The nursery school taught Junior to amuse himself; it taught us the kinds of things he liked to do, to be patient with his childish efforts and above all to give him a chance to play alone the projects that he wanted to play alone. At home, this meant providing for little sister, seeing to it that she did not bother him when he was engrossed in some particular "one-man" problem, such as building railroads or delivering groceries in his small truck—occupations in which little sisters have no part.

That does not mean that he did not play with his sister. We saw to it that at times, when both were in the mood, they shared their toys, and as sister grew a little older she was able to cooperate in the plays of engineering and distribution; but while she was too small to do anything but make trouble, we made a tremendous effort to see that she was occupied at something that did not interfere with the success of the thing Junior was trying to do alone.

Such a program took much time and more patience on the part of the parents and especially of the mother, who is also housekeeper, seamstress and general hostess for the family, but we feel that we have been well repaid for our efforts.

The nursery school taught us as parents to have faith in our children, to believe that they are naturally good and that they much prefer to be good rather than to be troublesome; but only by being troublesome can they register a protest against circumstances which they do not fully understand themselves.

Walking on the inclined board is only fun and play to the 3 year old, who knows nothing of muscle coordination.

Dr. John B. Watson lists dressing and undressing as one of the causes of babies' flying into a rage, and certainly the trouble is not confined to babyhood. The clothes problem in some form seems to be a perennial conflict between parents and children from infancy to college, and on analysis the whole unhappy situation seems to be a matter of misunderstanding on the parts of both parents and children.

Consider the matter of children dressing themselves. It is a rare parent who can allow a child to wear her panties wrong side out even though she can put them on and button them herself, and rare is the parent who can walk down the street with pride beside the small boy who has proudly struggled into his sweater and achieved success by getting it on hind side foremost.

There are undoubtedly some children who prefer to be dressed, but once ours started to manipulate their clothes they were independent, and adult help had to be proffered with care and politeness! So we learned to let them wear their clothes just as they put them on unless there was danger of impairing their health, and the neighbors soon grew accustomed to caps on backward and overshoes on the wrong feet.

One important point we learned at the nursery school was the time it takes children to eat their meals. Like most parents, we felt that once children had learned to manipulate a spoon and cup fairly well there was no use in their dawdling over meals. So it was with a great deal

Every one relaxes for one-half hour before dinner at the nursery school.

of satisfaction that I discovered that nursery school children ordinarily devote from thirty to forty minutes to eating their dinner. At once our time schedule at home was adjusted to take care of this fact. No longer did I try to speed up Junior's noonday meal so I could have the dishes done by 1 o'clock.

On many occasions I have asked my children what they do at nursery school, and the answer is always the same, "Oh, play, just play," which proves most conclusively that they are totally unaware of the definite program of development or "training" which is going on all the time. There is so little display of negativism by the children in the nursery school that the parents are wont to throw up their hands and say, "Well, I wish he would act as he does at home." But the children seldom do, and the secret no doubt is the fact that nursery school attendants have a way of carrying out plans and programs which make the child feel that he is doing as he pleases all the time.

When I call nervously to Junior, "Hurry and get washed for dinner!" I remember that at the nursery school he probably was asked, "Have you washed for dinner?" or "Who wants to get washed for dinner?"

Washing for dinner at the nursery school does not seem to be an unattractive form of play because the lavoratories and mirrors have been placed low so that one who is only 3 years old does not have to climb or stretch to use them properly. Each child has his own towel, wash-cloth and comb. Fastened in the corners of each of these are small rings which are easily slipped over small convenient hooks. It is a pleasure for chubby fingers to hang up towel and wash-cloth when it is so simple a matter as slipping a ring over a hook and when one can be sure it will stay there and not slip to the floor.

It was not possible for us to lower our bath-room fixtures or install new ones in children's sizes, but we did make other changes which have relieved much of the old strain attendant on getting cleaned up for meals.

It was hard for me to believe that negativism is an almost universal manifestation at some period in the life of small children and that usually it comes as a phase and does not persist if it is given little on which to feed. But once I was convinced, I devoted most of my waking hours to devising ways and means of relieving the strains which had called forth the manifestations of negativism. Space does not permit me to list all the "tricks" which tided us over former difficulties, but I assure all parents that the reward is more than worth the effort required to see that negativism has little to feed on.

Do nursery school children never do anything that they should not? Indeed they do. One can scarcely imagine a dozen or more little folks playing in the same yard or room and not having some conflicts between themselves and with the rules and regulations of the place. And what do those in charge do? They may do any one of many things, but there is one thing that they do not do. They never call a child "naughty" or "bad." When a child is engaged in some activity which for some reason or other is not acceptable, his attention is usually called

Washing becomes a pleasure when each child has his own towel, wash-cloth and comb hung within his reach.

to some other possibilities than the undesirable activity he has chosen. John may be told that "we do not write on the floor with crayons, but here is a sheet of paper on which you may write."

At home, substituting paper on which to write or draw is the usual practice, but I must say it does not entirely curb the desire to write on the walls or the floor. We have yet to discover at what age these surfaces cease to be inviting, but the continual proffering of paper in the form of sheets or stitched into a book on the sewing machine frequently saves walls and much useless talk.

It sounded too much like magic, but we willingly tried it and found that—it was magic! Where our former reproofs had brought forth storms of protest and a grim determination to continue at any cost, we found that the soft answer followed by a pleasant and practical suggestion of change of activity certainly did turn away the wrath.

What is success to a child? Many of us were raised on the adage, "If a thing is worth doing, it is worth doing well," and our success was measured by the adult standard. Fortunately for children in the nursery school, a different measuring stick is used. I learned not to judge

children's activities by what they produced but by the satisfaction and power that come to them from their work. I also learned that nursery school teachers feel that an imperfect or unfinished product achieved by the child's own efforts is more valuable for his growth than the perfect performance which might result from adult direction and explanation. So when Junior tried to reproduce the switchboard he had seen in the telephone office by lowering the arm on a floor lamp and attaching the mouth piece of a toy telephone with the frame of a scroll saw, we did not tell him that there were plenty of other things in the house to have made the set up more real. When he settled himself in his small rocker and said "Number, please" into the apparatus, we gave our numbers from the kitchen sink and the armchair, sometimes to be told, "The line is busy" or "You are calling the wrong number!"

It is quite natural that parents should want courteous and well mannered children, and most parents are willing to devote a great deal of time to such training. Who among us has not said, "Tell Johnny 'thank you' for the ball," or "Shake hands with Mr. Smith," perhaps even insisting if the courtesy was slow in appearing? I was eager to know how the nursery school attendants managed that, and I discovered on my first visit. When Mary hands the block to Alice, the attendant says, "Thank you, Mary," and after a time Alice starts to echo the attendant's words. Perhaps it may be weeks before Alice says "Thank you" of her own accord, but in time she grasps the idea.

I tried to do likewise at home, and after months of patience I am now rewarded with a 5 year old son who frequently thanks me quite of his own accord and often for things for which I least expect thanks. Imagine my surprise at the lunch table to be told, "Thank you, Mother, for having salmon loaf today. I like it."

We parents often forget that we are constant examples ourselves and that our children learn to expect certain responses from us even as we look to them for shining results of our training. Not long ago Junior accompanied me and his sister to the nursery school, from which he has now graduated into kindergarten. He preferred to stay in the car while we went inside, but he sent a "check," which he had written at home, in to one of his former teachers. I delivered it without much ceremony and went back to the car. His first question was, "What did Miss Swanson say?" I told him she had said, "Tell Junior 'Thank you.'" His eyes sparkled as he said, "I thought that is what she would say." I have since been wondering whether he has reason to expect the same high standard of politeness from his parents. Needless to say, we are making a great effort to be as polite and as considerate to our children as they expect their teachers to be—and what a strain it is sometimes, with the hurry and scurry of home life!

So it goes through the long list of niceties we parents do so want our children to learn. Our nursery school teacher says, "We must choose. One cannot expect a child to be a clever parrot and a dynamic personality."

It would be impossible in this space to tell all we have learned through our connection with the nursery school. While I seem to have dwelt on the practicalities and "tricks of the trade," they are by no means the sum total of our reward. Our vision for our home and children has been immeasurably broadened by our contacts with the nursery school staff. Undoubtedly, the faith the nursery school people have in parents and the respect they have for the multiplicity of responsibilities other than child development with which parents are confronted has something to do with our feeling that nursery school is quite as important in the life of a child as kindergarten, eighth grade or college.

Keeping Children Well

Coordinating the Health Efforts of Home and School

By LEWELLYS F. BARKER

H. Armstrong Roberts

Teachers should be on the look-out for any abnormal conditions.

INTEREST in general child welfare and especially in positive health measures for developing generations and making the most of innate capacities has grown with extraordinary rapidity. As evidence of this, I need only mention the important conference on child welfare recently held at the White House in Washington. Parents, teachers, physicians, nurses and public authorities have all been awakened to the importance of the problems involved, and the ever greater cooperation shown in attempts to solve those problems has been most gratifying. Scientific investigators have been busy in determining the factors that are concerned in the origin both of health and of disease. The new facts as they have been discovered have been more quickly and more widely disseminated than was ever before possible. There are also becoming more manifest keen feelings of responsibility for adequate application of the newer knowledge bearing on getting children well born and on their proper protection, suitable exercise and training to self reliance during the first two decades of life.

For the spread of the knowledge referred to, for the increase in the interest in the problems involved and for the excitation of the desire to participate in the most helpful ways in promoting the health of young children and adolescents, conferences of parents and educators have been found to be most salutary and, indeed, indispensable. Without thorough-going cooperation of families with school authorities, progress toward the goals aimed at must inevitably be greatly retarded.

Health is often considered by the layman as merely freedom from what he thinks of as "disease." Though it does include such freedom

from manifest disease, medical men now think of health as something more than that. They regard health as a condition of abounding vitality in which there is capacity of the person to make satisfactory adjustments to the stimuli that come from the physical and the social surroundings. These adjustments constitute what is known as behavior. In early childhood, behavior is much influenced by pains and pleasures and by rewards and punishments; in adolescence it is modified by anticipation of social praise and blame; in adult life, behavior should depend on ideals of conduct and become largely independent of the praise or blame of the immediate social environment. Adequacy of responsivity of the human organism as a whole is, then, the health goal toward which to strive.

The factors that determine health as I have just defined it are inborn and acquired.

The inborn factors depend on the qualities of the particular germ cells from the two parents that give rise to the new human being. A paternal germ cell fuses with a maternal germ cell to form a fertilized egg cell. The germ plasm of the cell thus formed carries the substances that transmit ancestral tendencies; it is this germ plasm of the fertilized egg cell that gives to the new human being thus started the kind of instinctive foundation it possesses and all its potentialities.

The acquired factors lie in the environment of the fertilized egg cell and the developing organism. The embryo and the fetus that develop in the mother's womb, the infant that is born, the young child, the adolescent, the mature adult and the senescent are all to be regarded as the results of interaction of the substances and qualities within the original fertilized egg cell with substances and stimuli of various sorts in the surroundings both before birth and during life after birth.

A human being is, then, at each of the long series of stages through which he passes, derived partly from his ancestors—the inherited pattern—and partly from his environment—the acquired modifications. No two fertilized egg cells, even from the same parents, except perhaps in the case of identical twins, are ever precisely alike at the start; and no two developing human beings are ever exposed to precisely the same series of environmental influences.

Thus, each human being is a unique individual, differing somewhat from any other person living, any other that has lived or any other that will live. The logical conclusion is that each human being, at any given moment, is in constitution (inherited and acquired) the inevitable resultant of the series of reactions of the substances and energies within it with the consecutive physical, chemical, psychical, biologic and social influences outside it from the time of fertilization of the egg cell onward. Constitution is ever reacting with situation with resultant modifications. Health will be maintained as long as the organism remains capable of making adequate responses to external circumstances, provided always that the circumstances are not too unfavorable or overhostile. It is thus on the totality of conditions, both internal and external, that health depends. Heredity and environment are both of great significance; it is absurd to minimize the importance of either.

Health of person, moreover, means health not only of body but

In the second year, initiative and independence should be encouraged.

Doris E. Wright

also of mind. In the healthy body, the digestive, respiratory, circulatory, locomotor, nervous and reproductive organs are sound, and they function adequately. The healthy mind is capable of adequate feeling, thinking and striving, so that satisfactory adjustments are made not only to the material environment but also to social situations; character and intellect both undergo the development necessary for self preservation and for the process of living in sufficient harmony with other social units.

Schools, both public and private, are coming more and more to the realization of their duties and responsibilities, in regard not only to the health of the pupils they admit but also to the maintenance of health after admission. Most schools now have well developed health programs, which they endeavor to carry out by means of organizations that include not only the teaching and administrative staff but also school physicians and school nurses.

What the Well Balanced Program Includes

The principal features of such health programs for the schools include (1) a thorough physical and mental examination on admission to the school to make sure that the pupil's condition is adequate for the work to be undertaken; (2) daily inspection of pupils to make sure that personal health is being maintained and particularly, also, that no communicable disease shall be introduced into the school; (3) periodic health examinations at regular intervals for appraisal of physical and mental status; (4) systematic supervision of the hygiene of school work and recreation, including special attention at the beginning of athletic seasons (baseball, basket-ball, football); (5) contact relations of school physicians and nurses with the families of pupils and with their private medical advisors; (6) examinations of the health of teachers by physicians authorized by school authorities, and of janitors and cafeteria workers by school physicians, and (7) conferences of parents and teachers at which the health difficulties of pupils can be freely discussed with reciprocal benefit.

On admission to a school, it is desirable that, for each pupil, the condition of vision, hearing, teeth, nose, throat, chest, posture, nutrition, skin and orthopedic and immunity status is determined as well as the level of development of the intellect and the character; the parents should be informed of any physical, moral or mental defects that may militate against health and efficiency and, after thirty days, a contact check should be made to make sure that corrective measures have been instituted by the family physician or by a specialist whom the latter has called to his aid.

Classroom teachers are trained to be sharply on the look-out for the development of any abnormal condition (physical, mental or moral) in a pupil and to refer such abnormal pupils promptly to the school nurse or the school physician for examination. Pupils who are not mentally deficient but who are slow in work or who fail repeatedly in one or more subjects should also be referred to the school physician for study. Preternatural fatigue in a pupil should lead to an examination of the conditions not only in the school, but also in the pupil's home. Pupils who exhibit any striking abnormality of behavior or who do not play and work well with other pupils in the school should be studied carefully by the school physician and be referred, if necessary, to the family physician or to a psychiatrist in consultation.

Among the diseases that cause absences from schools, by far the most common are disorders of the upper respiratory tract and particularly the common cold. If methods of preventing the common cold and its sequels were known, it would be possible to reduce the absences from school by more than 50 per cent. Sore throat, tonsillitis, measles, whooping cough and mumps are also common causes of school absences. Much is being done by immunization against diphtheria and against scarlet fever to reduce the incidence of these diseases in the schools. Typhoid and smallpox are, fortunately, now of rare occurrence in schools since purity of water and milk supplies and universal vaccination have been provided. Tuberculosis has become much less common in schools since systematic physical examinations have been resorted to, and tuberculin tests and x-ray examinations have been made in cases that are at all suspected. It is interesting that in childhood tuberculosis the children are more often over than under normal weight.

Stimulation of Health Consciousness

School physicians and nurses are doing a great deal to prevent disease in schools by talks to pupils on diet, rest, play, posture and sleep and by keeping the public informed, through newspaper articles, of diseases that tend to develop in schools and the methods of preventing them. This education by stimulation of the health consciousness of school pupils and of the community is probably even of greater importance than the control of communicable diseases within the schools themselves and the detection and correction of physical defects.

Parents too often forget that the health of pupils in schools depends in no small degree on the condition of the children in the years of their lives before they enter school.

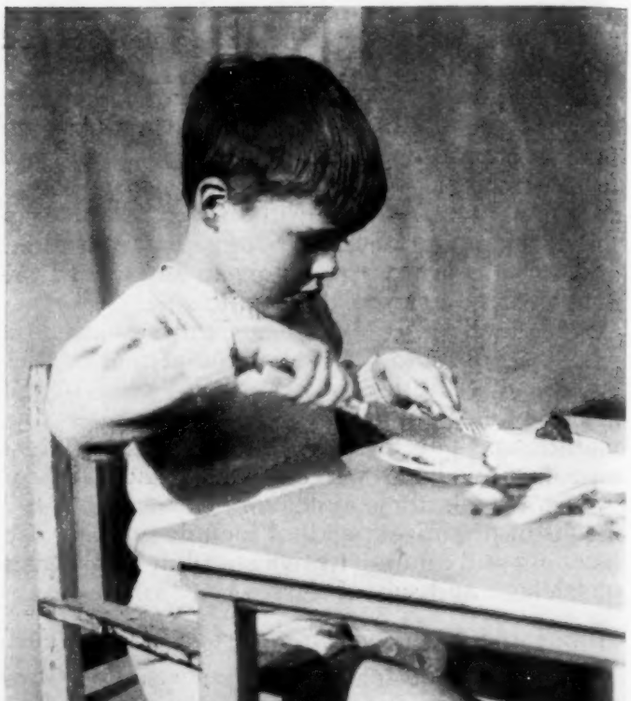
In the first place, there are some men and some women who should never become parents, even if they are permitted to marry. Thus, as every physician knows, in certain families of bleeders, though the women do not bleed, their sons are liable to bleed to death in early childhood. There are certain diseases, too, of

the nervous system and of the sense organs that are so exquisitely hereditary that no conscientious man or woman suffering from them would want to bring a child into the world when it was almost certain that the child would suffer similarly. Fortunately, there are relatively few of these diseases about which the layman needs to be warned. I prefer to lay emphasis on the fact that far too many persons have fears of transmitting evil inheritable tendencies when there is but little if any ground for their fears. Eugenics is a relatively new science, and conscientiousness about parenthood is a rather recent development. However, the layman who is in doubt can always ascertain from competent medical sources whether or not there is any reason why he should abstain from parenthood.

Good Beginnings Are Important

Far more important from the standpoint of the physical and mental health of pupils in schools is the management by parents of their children in infancy and during the preschool years. Home conditions and the relations of parents to children have undergone marked changes during the past few decades and especially since the war. Parents, realizing that scientific interest in education is now being focused on the child of preschool age, are seeking authoritative information as to the best ways of keeping the developing child healthy, especially in regard to habit formation and the earliest social training in the home. Parents are coming to realize the great importance of the formation of the fundamental physical habits, of the early development of emotional control, the cultivation of adequate personal expression, of favoring the growth of the higher sentiments and ideals and of the establishment and maintenance of correct relationships between the child and his parents. The rapid development of parental education promises much for the better understanding and management of the young child, and the conviction is growing that on such understanding and proper management the efficiency and the social integrity of the later life largely depend. It is the duty of the family to see to it that in the home the child is suitably initiated by example, by precept and by opportunity into a normal type of social life. The fathering and the mothering of a child in a wholesome family are inestimable boons, but a child would often be better off in an institution than in a family in which conditions are abnormal.

The early behavior of children is related to the satisfaction of cravings from within or what are known as the bodily appetites of hunger, thirst, sleep, elimination, play and sex. These normal appetites should be thoroughly understood, and the habits formed in connection with them should be carefully directed and regulated, not left to chance, for otherwise the physical well being of the child will suffer and his adjustments to social situations will be faulty. Desirable habits can, as a rule, be easily formed, provided parents and nurses understand the technic, make proper plans and see that these are carried out regularly, consistently and with evenness of temper. If certain bad habits appear, they should be broken by positive rather than by negative methods and, whenever possible, without exciting feelings of humiliation or of active resistance on the part of the child.



D. Warren Boyer, Westport, Conn.

Attention should be paid to the food needed, the use of utensils, and social behavior while eating.

Caprices Should Be Discouraged

In forming eating habits, attention should be paid to the kinds and amounts of foods needed, regularity of time of meals, the proper use of utensils, neatness, the completion of each meal when the portions offered have been wisely chosen, and social behavior while eating. The indulgence of caprices with regard to diet is dangerous for the welfare of a child in later life; except in instances of undoubted idiosyncrasy, every child should learn to eat all kinds of simple foods regardless of choice and special likes and dislikes.

In forming sleeping habits, regularity of hours is essential. Quiet of mind and body for a period before sleep, darkness, fresh air, and a comfortable bed in a room by itself are also necessary. The mother or nurse should assume that the child wants to go to sleep and will do so. If insomnia should appear, all the points mentioned should be checked and, in addition,

attention should be given to possible disturbances of digestion, lack of exercise, excessive fatigue or abnormal excitements. Only after elimination of these possible causes of sleeplessness need a physician be consulted if the insomnia persists.

In forming habits of elimination by bladder and bowel, regularity of time is most important together with proper suggestion on the part of mother or nurse. Usually, bowel control is gained at 3 months, bladder control at the age of 1½ year or earlier.

In the second year of life, the child's initiative and independence should be encouraged. In the Russian crèches the child washes his own hands and face at the age of 1 year and 4 months, removes his own stockings at 1½ years, and at 2½ years undresses and dresses himself, buttons his comrades' clothes and makes his own bed!

In forming habits of play, suitable provision should be made for playing alone as well as for playing with others. Every child needs regular exercise in the open air, and play affords the opportunities for this. Play is important for developing the sense of freedom and of self direction. In solitary play, concentration and self reliance are exercised; in social play, the powers of imitation, of cooperation, of organization and of give-and-take are developed. For an only child, social play with children of the same age is, of course, indispensable.

Certain children are oversensitive and are especially predisposed to nervousness. They can often be markedly helped by a process of general physical and psychic hardening, if the hardening measures are judiciously devised and applied. Great care should be exercised during the application of the measures decided on to avoid errors on the side of indulgence, on the one hand, and on the side of overhardship, on the other. When parents are in doubt, the aid of the family physician should be sought.

Be Honest with Children

In sex training, the curiosity of the child regarding sex matters should be adequately appeased as it is gradually awakened. Parents should give prompt answers with simple honest statements suited to the age of the child. Sex instruction should continue steadily and should be slightly anticipatory of the child's desire for knowledge. Unless parents supply the information needed, the child will seek it furtively from servants or from extrafamilial companions and may get wholly erroneous and harmful ideas. At the proper age, the reasons for a certain reticence, dignity and modesty regarding discussions of sex may be given. If a harmful sex habit should appear, it should be dealt with most tactfully and should not be overemphasized. Possible causes, physical and environmental, should be sought and removed, and the child's life should be rearranged so that it is filled with interest, happiness, outdoor activity and association with wholesome companions.

In a recent magazine article, Edgar Carroll has dealt admirably with "things that children wish their parents wouldn't do." His advice to parents who act like dictators and despots, who talk down to their children, who display them, who dress them fantastically or who baby them, I can heartily support. If parents would use their imaginations a little more and try to realize just how their children must feel when they are improperly treated, they would make far fewer mistakes than they do.

Trace the Behavior Problem to Its Source

While appetites have been defined as regular cyclic cravings from within, emotions are looked on as occasional and special affective responses provoked by the special stimuli of certain situations outside. For example, desire for a certain food is an internal craving; the thwarting of that desire by the nurse may evoke an emotional explosion (anger) and give rise to a marked disturbance of behavior (temper tantrum). The affectionate attitude of parents will evoke the emotion of love; repeated threats of harsh discipline will soon excite fear.

In early childhood, sympathy, understanding, protection and the insurance of security elicit pleasant emotional responses; but the parents should also see to it that their children are gradually trained to self reliance and independence. In the parent-child relationship, emotional conflicts are bound to occur and will require tactful management. Parents should seek the causes of such conflicts and make sure that they are not due to errors on their part rather than on the part of the child. Some parents do not feel sufficient concern when children display emotional outbreaks. A foolish parent may let a child have what he wants if the child cries hard enough for it. A child should learn that exhibitions of temper and tantrums will not be rewarded; it is self control that should be rewarded, not evidences of lack of control.

Many of the behavior anomalies of relatively normal children are not signs of deterioration, degradation or constitutional inferiority but are due to lack of proper training at home. Nail biting, thumb sucking and masturbation are instances in point; even deceit, lying or stealing may be the fault of parents or nurses rather than of the child. Severer disturbances like convulsive tics, chorea (St. Vitus' dance), kleptomania, definite criminal tendencies, hysteria, pathologic depressions and elations, and other psychotic manifestations will require the intervention of the family physician, a neurologist or a child guidance clinic.

It is evident that parents are today becoming deeply interested in some of the newer doctrines

(Continued on page 853)

FOODS--

By E. M. Geraghty

Their Selection and Preparation

FRUITS: II

Pineapples are native to America. The fruit should mature before it is picked.

THE NEXT division to be discussed is the group commonly referred to as citrus fruits. This group includes not only the well known oranges, lemons and grapefruit but also a number of less popular items, such as the calamondin, carombola, citrange, imbus, kumquat, limequat and mangosteen.

Citrus fruits came first from China and other parts of Asia and were long ago introduced into the country near the Mediterranean Sea and then into the western hemisphere.

Citrus fruits require plenty of moisture and a fairly equable temperature, not below 18 F. or above 100 F. Bailey states that the ideal region is one where the winter temperature is not below 26 F. except for a few hours.

These fruits contain citric acid, some phosphoric acid and a little malic acid.

Citrus Fruits

Calamondins resemble tangerines in appearance and limes in flavor. They are used for garnishes and in beverage making.

Carombola is an Asiatic fruit of delicate aroma about the size of an orange; it is oval and has a yellow skin. It is used both raw and cooked, green and ripe. It comes from California and the West Indies, and is sometimes called the Coromandel gooseberry.

Citrange is the result of crossing the trifoliate orange and the sweet orange. It is much more tart than the regular orange and is valuable for beverage use and as an ingredient in ices.

Grapefruit, so called because the fruit grows in clusters like grapes, is the largest fruit of the citrus family. It came originally from China. It is round, yellow, smooth skinned with clear flesh. It is grown most extensively in Florida, California, the West Indies and in oriental countries of tropical climate. This fruit is graded by size—number 46 is the best size for general use, 64 next, and 80 and above are the least desirable, except for juice. Grapefruit is served as a fresh fruit, a salad ingredient or in marmalade. Pomelo is another term sometimes applied to grapefruit but really belonging to a group of pear-shaped fruits. Shaddock is also a name for the pear-shaped fruits.

The imbus resembles a large yellow plum, and the flavor is like that of an orange. The tree has recently been brought here from Brazil. The fruit is eaten raw or made into jelly.

The kumquat resembles a tiny orange in external appearance but the inside is pulpy and has little juice. It is used for preserves and as a decorative note when raw. The entire fruit is eaten.

Lemons, next to oranges, are the most important of the citrus fruits. The fruit is gathered before it is ripe and is cured for from two to four months. It should be kept at a temperature not above 50 F. The acid present is citric. Most of the lemons consumed in the United States are grown in California, southern Italy and Sicily. The sizes run from 180 to 540 to a standard box; the best ones for general use range from 300 to 360 to a box.

Limes look like small lemons, but they have a different flavor. They are raised in Florida, California, the West Indies and Italy. The skin is so thin that limes do not keep well. They are used for garnishes, lime juice and in any other way in which lemons are used.

Limequats are a cross of limes and kumquats.

The mangosteen is grown in the East Indies. It is about the size of a medium orange with a rather rough skin of reddish color. The pulp is juicy and in segments like an orange, and the flavor is delicate and aromatic.

The orange ranks with the lemon for popularity in the citrus fruit group. Florida and California are the best sources in the United States. The foreign markets are supplied from Spain, Brazil, Italy, South Africa and Florida. The flavor is influenced by soil, stock and climate; a distinct difference is noticeable, therefore, between Florida fruit and California fruit. Citric acid is found in this fruit. The California varieties are navels in the winter and early spring and Valencias in the summer and early fall. The navel is the better liked orange for flavor, for appearance and for absence of seeds. The Florida oranges are plentiful from October to June. Indian River is the best Florida brand although the Valencia is the most widely distributed Florida orange. The navel orange is easily recognized by the characteristic navel end. The Valencia is a smooth-skinned fruit. Florida oranges are the best when quantity of juice is the deciding factor, but to some people the flavor of the Florida fruit does not appeal and then only a California orange will answer. Navel oranges are more attractive for table service both as halves of fruit and as sections for salads and cocktails. But whether Florida fruit or California fruit, the choice of size to buy will be regulated by the use for which the fruit is intended.

Courtesy of Hill Brothers

A tropical date palm.

Oranges are graded by number to a box, ranging from 48 to 360 to a standard box. Number 48 is large and, while it looks well in a mixed fruit basket, it is not the best or the choicest size for any other purpose. The smallest sizes, 288 and above, are the best for quantity production of juice.

Mandarins are a loose-skinned variety with sections easily separated. The term tangerine is applied to small species, Mandarin to medium to large, Satsuma to a medium sized, seedless variety and King to the largest of the species in this group.

The Seville orange is a sour variety used for marmalade and confections.

Rangpur is a citrus fruit used like limes and lemons.

Melons

Melon is a term applied to a fruit of closely related species with different names. The first rough division is into summer melons, winter melons, watermelons and citron melons. The summer melon group includes the cantaloupe (named from Cantaloupe, Italy, where it was first grown in Europe) or muskmelon—terms interchangeable in this country. These melons are netted on the outside, have an odor of musk, are ribbed, round or oval in shape, have various colors of flesh and skin, are usually soft shelled and range in weight from 1 to 10 pounds. The best known varieties are Montreal, Golden Queen, Rocky Ford, Osage and Hackensack. Cantaloupe should be fully ripe and always served cold, but ice should never be put in the seed cavity as this spoils the delicacy of the flavor. Owing to early shipments from the South, our own harvests and the late shipments from Canada, the summer melon season is long.

The winter melon group includes Honey Dew, Honey Ball, Casaba, Ostrich Egg and Persian melon. Honey Balls are small melons of the Honey Dew class. These melons have a smooth skin, yellowish green in color, and they are much larger than the average summer melon. The flesh is cream colored, shading to light green. Melons of this type keep for two months or more after gathering, and while they are best used raw, both winter and summer, yet an excellent pickle is made from the rind.

The watermelon is credited to Africa, but it grows through central United States, southern Europe, Egypt and India. Some varieties weigh as much as 50 pounds. They should be allowed to become fully ripe before picking, for the flavor is then sweet and mellow. Delicious pickles are made from the watermelon rind. The citron melon looks like a small watermelon, but the raw flesh has no appeal. It is made into a delicious preserve. Sugar melon is a variety of cantaloupe.

Citron should be distinguished from citron melon. The true citron is shaped much like a lemon but is larger. The rind is greenish yellow and the fruit is fragrant. The inside has an acid pulp much like lime. The thick rind is preserved and used as a confection in fruit cakes, cookies and puddings. Candied or glacé citron is the best grade, drained citron is a cheaper grade, and crystallized is the least desirable unless it is very cheap.

The mango melon is a small round melon with yellow skin and white flesh used for pickles and preserves. Sometimes it is cooked like egg plant and used as a vegetable.

Papayas are sometimes called tropical papaws, but they belong to an entirely different family. The shape of the papaya is much like that of a melon. The color is reddish green to deep orange, and the flavor resembles that of the muskmelon. It may be served in the same manner as melons or peaches; it is also cooked and served like squash or made into pies, jams and pickles.

Grapes

Grapes are known practically everywhere but are grown most extensively in Greece, Italy, France, Spain, Canary Islands, Portugal, the Valley of the Rhine, western New York, northern Virginia, Missouri, Ohio, New Jersey, southern Michigan, Wisconsin and California. The Catawba, Concord and Scuppernong grapes are the oldest American varieties.

The best known varieties of grapes are Alicante, a Pacific Vinifera variety, once used largely for wine making; California White Muscat, the best for raisins; Catawba, a splendid red grape; Concord, the well known purple grape, used for table service and grape juice, jam and jelly; Cornichon, a black Pacific grape which ships well; Delaware, a cross of European and American varieties, small, sweet and of a reddish color; Emperor, a reddish purple Pacific grape, large and excellent for table use; Flame Tokay, a Pacific grape, bright red, and Muscadine grapes which grow in the South and West. The best known variety is the Scuppernong. This grape does not bear transportation well; Niagara is a lovely, cool green, sweet and delicate but perishable; White Malaga is a firm, green grape also of greater value for color note than for flavor; Worden grapes are much like Concord and are often mistaken for them. The hothouse varieties are Barbarossa, Pink Frontignau, Gros Colman, Hamburg and White Muscat.

Most of our imported grapes come from Malaga; this is why the term is applied so loosely to any large white grape. The two varieties best known are Malagas and Almerias. Raisins are sweet grapes dried. Certain varieties are best adapted to this purpose. Malaga, Valencia and Denia Muscatels are used for Muscatel raisins, which are dried on the vines. Lexias, Denias, Turkey and California grapes are used to produce Valencia raisins. Sultanas are small, seedless raisins from Greece, Turkey and Persia.

In stripping the Muscatel raisins, the stems are slashed or twisted to prevent the circulation of sap, and the grapes are then left to dry as much as possible in the sunshine for two or three weeks. The Valencia raisins are also called "dipped" which indicates that the grapes, with the stems twisted, are left to hang one day to hasten evaporation, are then pulled and dried in the sun one more day, are rinsed with water and finally are dipped for an instant in a vat of boiling lye flavored with rosemary and lavender and covered with olive oil. After this process, they are "sweated" to distribute the moisture and soften the skin. Seeded raisins are raisins which have been cut and from which the seeds have been removed. Seedless raisins are prepared from seedless grapes. Cluster raisins are large bunches that have not lost any raisins by dropping; the highest quality is called six crown.

Grapejuice is made by expressing the juice of the grapes, heating it not above 180 F. and sealing in sterile bottles. The flavor and color vary, of course, with the varieties used. The major amount of grape juice is made from Concord grapes.

Tartaric acid is present in ripe grapes, and malic acid is also present in unripe grapes. Sea grapes are not true grapes but resemble the fruit in the manner of fruiting in pendulous clusters. These grow on a tree found in Florida and the West Indies. The fruit is red, pear shaped, about three fourths of an inch in length and mild flavored.

Plums

Plums probably originated in Asia but are now grown in Europe and America. The best liked cultivated plums are Agen, Burbank, Climax, Damson, Diamond, French Prune, Golden Drop, Grand Duke, Green Gage, Hawk Eye, Imperial, Italian Prune, Lombard, Miner, Mirabelle, Nickson, Pond, Silver Prune, Sugar, Tragely, Washington and Yellow Egg. Some of these are dried to make prunes. Prunes are cured by sun drying, evaporating and sun drying, or evaporating after cooking. The Agen plum is the variety most widely used.

The persimmon came from Japan and China and is now being cultivated in the southern part of the United States. The fruit is yellow to deep orange, about the size of a large plum. Persimmons have a "puckery" or astringent flavor when picked before they are fully ripe but are most acceptable when mature. They are used fresh and cooked. There are two distinct varieties, American and Japanese.

Dates

Dates grow on date palms in the tropics. The present main center of supply for the United States is along the Persian Gulf, although dates are grown in Arizona and California. For trade name recognition the choicest dates are called Tunis dates; other varieties are Daglet Noor, Majhud and Ghars. Most of these are sent to Europe. To the United States are sent Persian dates, which are light and large, and Fard dates,

dark and small. Among the Persian dates are Hollowi (medium, sweet, mild, golden brown and coarsely wrinkled lengthwise), Khadrawi (medium, rich flavored, light brown, translucent, seldom wrinkled) and Sair (medium sweet, mild, dark brown and sparsely wrinkled). The first two are the best grades. A Persian date which goes mostly to Arabians is the delicious Khabaseh, which is medium light brown, translucent and seldom wrinkled. Of the Fard dates, all are less attractive than the Persian group, but they bear transportation well. Many writers refer to the good combination of dates and milk. The date nut bread is especially acceptable as a basis for cream cheese sandwiches.

Figs

Fresh figs, cool and dewy, are one of the joys of southern sojourning. The flavor is delicate and refreshing. The color is lovely. The Magnolia is a large, amber-colored fruit about the size and shape of an onion. The Celeste is small, pear shaped, violet or purplish brown with pink flesh. The Brown Turkey is violet brown with green high lights, broad and pear-shaped with amber skin. These fruits are, however, too juicy to transport well, so the residents of the northern climes know American figs best when canned or preserved. Of the dried figs the best known are Smyrna or Calimyrna, White Adriatic and Mission. There are two principal styles of packing dried figs—"layer" and "locoum." The layer figs are pulled out in almost half-round shape and pressed into layers. The locoum figs are square and thick. Only the larger figs pack well in locoum style. The less desirable fruits are shipped loose or on strings and may be stewed or used in fruit puddings and cookies.

Pineapples and Other Fruits

Pineapples are native to America, growing especially well in Central America, the West Indies, Hawaii and Florida. The fruit needs to mature before picking if the best flavor is to be gained. Home canned pineapple is seldom as good as commercially canned because the fully ripened fruit is difficult to transport and therefore the fruit we secure in our markets has not as fine a flavor as that canned near the fields. The varieties are Red Spanish Queen, Sugar Loaf, Porto Rico and Smooth Cayenne.

Pomegranates are more decorative than delicious. They are native to Persia and Afghanistan and are now grown throughout tropical countries. The pulp surrounding the seeds is red and sweet.

The rose apple is the fruit of East India trees grown in California. One variety is pear shaped, from 1 to 2 inches in diameter; it has white flesh touched with rose and is rose flavored. The flavor is too bland for appetite appeal, but the rose apple makes a delicate preserve, jelly or confection. The other variety is oval, red in color and with a flavor and texture much like that of the apple.

The soursop is a tropical fruit with a thick, greenish skin covered with spines. Some of the fruits weigh 4 or 5 pounds. The flavor is tart but aromatic and is best when the pulp is pureed and frozen. The sweetsop or sugar apple is a round or heart-shaped tropical fruit resembling a crownless pineapple and is grown in Florida. It is good raw but may also be frozen like ice cream.

Pioneers of Medicine

Baron Shibasaburo Kitasato

By

CLAUDE LILLINGSTON

The revival of the plague is the most important single fact in modern epidemiology.
—Sir William Osler.

THE SUDDEN death of Kitasato on June 13, 1931, at the age of 75, has evoked a rich crop of reminiscences and reflections among leaders in medicine all over the world. A man with his many and great gifts would assuredly have made his mark anywhere, any time; but he was lucky to have been born when bacteriology was still an unexplored gold mine with great opportunities for those who first pegged out their claims and when his own country was on the eve of epoch-making developments. His luck, as we shall see presently, was never more insistent than when he discovered the bacillus of plague only a week or so before another explorer ran it to earth quite independently of him. By such narrow margins are races won up the ladder of fame! Kitasato spent all his long life on the most painstaking researches on tuberculosis without making one new and really important contribution to our knowledge of this disease. But he discovered the bacillus of plague in a couple of days. Such are the paths that lead to obscurity or fame.

Founder of a New School of Medicine

The discovery of the bacillus of plague, however sensational it was at the time and however much of a landmark it has since become, was nothing more than an incident in Kitasato's career. It was like the picking up of a gold nugget on the surface of a new gold field. Any casual gold miner could have done the same. Where Kitasato showed himself a truly great pioneer was in the organization of the aforesaid gold mine on modern, economically productive lines. He was one of the fathers of bacteriology and serology as exact sciences. At first practically singlehanded, he created a new school of medicine in his own country, molding it so as to adapt the best of the West to the requirements of the East.

An Earnest Disciple of Koch

This modern pioneer of medicine was born in 1856 in a mountainous village in the south of Japan. He spent his boyhood at home and began his medical studies under a European, Professor Mansfeld, who was in charge of the newly established medical school in Kumamoto. From here he proceeded to Tokio in order to pursue his medical studies in the government medical school. Completing these studies in 1883, he joined the staff of the Central Bureau of Public Health.

The world in the early eighties of the last century was ringing with the discoveries of Pasteur in France and Koch in Germany. Koch had discovered the bacillus of tuberculosis in 1882 and the bacillus of cholera in 1883. Those were great days. As the leaders of New Japan heard the echoes of these revolutionary discoveries, they were quick to perceive their importance and to realize the necessity for following them closely. They selected Kitasato, whose work

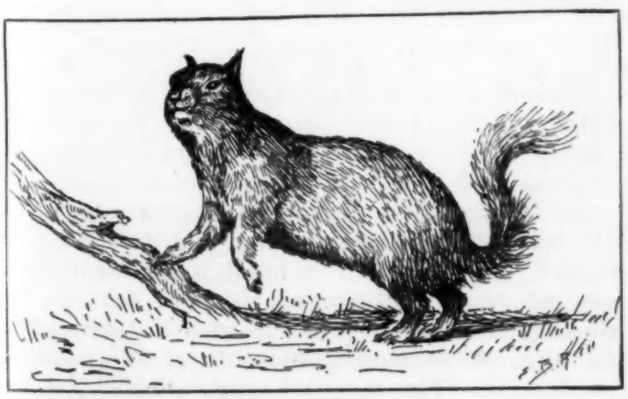
and personality had already singled him out from his fellow students, to go to Berlin to study bacteriology and infectious diseases under Koch himself.

Coming to Europe in 1885, Kitasato spent some six years in Berlin at the Hygienisches Institut, where he was enormously busy in a small room. Koch was an exacting teacher, who for all that, or perhaps because of that, had the gift of endearing himself to his pupils. After mastering the rigorous bacteriologic technic imposed by his teacher, Kitasato began about 1887 to publish his own observations on the germs connected with such diseases as cholera, typhoid and anthrax.

The disease that early attracted Kitasato's attention was lockjaw or tetanus. Its characteristic symptoms had been known for centuries, and its almost invariably fatal course was grimly commented on by Hippocrates in the aphorisms: "The spasm supervening on a wound is fatal," and "such persons as are seized with tetanus die within four days, or if they pass these they recover." Before the eighties of the last century there was little more to be said about this disease than was conveyed in the foregoing terse phrases. Kitasato set himself the task of clearing up the mysteries of this disease, and in 1889 he succeeded in cultivating the bacillus of tetanus in a pure state.

Kitasato Studies the Mysteries of Tetanus

Late in 1890, Kitasato established three fundamental facts with regard to tetanus. The first was that the bacillus of tetanus produces a soluble toxin or poison peculiar to tetanus. The second fact was that when experimental animals are repeatedly given injections of this soluble toxin, they develop a neutralizing substance called antitoxin. The third fact which he established was that this antitoxin is specific; in other words, it acts on and destroys only the toxin of tetanus and nothing else. Von Behring, with whom Kitasato collaborated, confirmed these observations and at the same time showed that comparable conditions existed in the case of another disease, diphtheria. It was, in fact, these two investigators who laid the solid foundation of the science of healing by means of serums.



The California ground squirrel helps to spread the plague.

The toxin of tetanus on which Kitasato cast such a great and new flood of light is, perhaps, the most virulent of all known poisons. A fatal dose of strychnine, for example, for a man weighing 70 kilograms (154 pounds) is from 30 to 100 milligrams, whereas that of the tetanus toxin is estimated at a fraction of 1 milligram (0.23 mg.). This toxin, freed from the tetanus bacilli which have generated it, can be made to produce all the symptoms of tetanus when injected into an experimental animal. These symptoms include that spasmodic locking of the jaws which has given the disease its name.

Tetanus Antitoxin in the World War

The bacillus of tetanus lives in the intestines of many horses and of some healthy human beings. It is, therefore, often found in manured fields, in garden mold and in the streets and highways. During the Great War the well cultivated fields in the north of France were found to teem with this bacillus, whose ravages among the wounded would have been appallingly heavy but for the timely use of that antitoxin which was available, thanks to the researches of Kitasato which had been completed many years earlier.

Some forty years ago the world had settled down to the comfortable conviction that plague had little more than historical interest and that modern sanitation and various other factors had banished it from our midst. In the fourteenth century it had swept over Europe as the "Black Death" which destroyed a fourth of the population. In the great plague of London in 1665, it had raged violently, killing some 70,000 persons. But during the eighteenth and nineteenth centuries it had waned progressively, and it apparently had been relegated to out-of-the-way parts of the world.

On this seemingly blissful scene, there broke out in Hongkong in 1894 an epidemic of plague which startled and horrified the world at large. Japan mobilized against the common enemy by sending Kitasato and Aoyama to meet it face to face. They landed in Hongkong on June 12, and by June 14, numerous bacilli had been found in the infected glands and in the heart blood of a patient who had died of plague. Kitasato cabled to Koch that he had seen the bacillus of plague in films. Koch cabled back, asking whether he had succeeded in cultivating the bacillus artificially, and Kitasato was able in a few days to answer in the affirmative. Mice were inoculated with blood taken from the spleen of a plague patient, and cultures were made from the blood of both. These cultures were inoculated into such experimental animals as guinea-pigs and rabbits which found the bacillus of plague fatal.

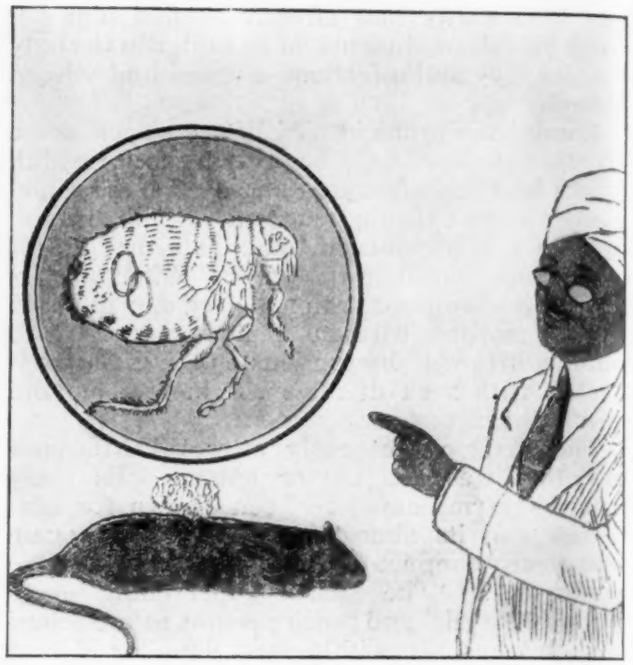
Meanwhile another expert, Yersin, mobilized in the campaign against this epidemic, was pursuing the same scent. He arrived in Hongkong within a week of the advent of the Japanese mission and independently discovered the bacillus of plague. There was some difference in the descriptions given of this bacillus by the two discoverers, and prolonged research was necessary to clear this matter up. In the end, Kitasato had the generosity and fairness to state that the description given by Yersin tallied with the facts and that this bacillus was, in truth, the cause of plague. The news of Kitasato's discovery was published in a preliminary notice in July, 1894, and an elaborate account of it appeared in the same year in the English medical journal, the *Lancet*.

The Forerunner of Many Investigations

The discovery of the bacillus of plague was the beginning of a series of investigations which have added greatly to knowledge of this disease. It is now known that bubonic plague in human beings is conveyed to them by infected fleas which have fed on rats suffering from plague. The rat flea carries the disease from rat to rat as well as from rat to man, and one reason why bubonic plague is not more common than it is in human beings is that rat fleas prefer feeding on rats to biting men. Yet the ravages of the disease in man are bad enough in all conscience; in the three provinces of India, the Punjab, Bombay and the United Provinces, with a combined population of about 100 million persons, there were as many as 5½ million deaths from plague between 1896 and the middle of 1911.

It is a little disconcerting to reflect that while knowledge of plague has been growing steadily ever since Kitasato's discovery in 1894, this disease has been spreading in an ominous manner in many parts of the world, including the United States and South America. The California ground squirrel and certain other rodents have become incriminated, and their wholesale elimination, together with the rat, would seem to be an impossible task. Much can, however, be done by intelligent cooperation backed by a long purse. Enormous as is the task confronting mankind in the campaign against plague, our knowledge of its mode of spread enables us to fight it systematically, and not as one "that beateth the air."

Returning from his dramatically successful campaign in Hongkong, Kitasato found great opportunities awaiting him in his own country. A Japanese philanthropist had provided funds for the establishment of a bacteriologic laboratory. Under Kitasato's direction this institution developed and prospered, and its chief proved that he had the rare gift of collecting able men around him and getting the best out of them. From being a more or less private institution, it came in 1899 completely under government control, although Kitasato remained its chief. Now and again he would be sent abroad by the government on various important missions, and he was a frequent delegate at international scientific conferences in Europe and America.



Bubonic plague is conveyed to human beings by infected fleas which have fed on rats suffering from plague.

In 1914, an incident occurred which led to a reorganization of Kitasato's work. It was an incident to which parallels can easily be found in most modern communities. The Government Institute, for whose birth Kitasato was responsible, and of which he was the chief, was suddenly transferred to the control of the minister of education, being subsequently amalgamated with the Tokio Imperial University. Kitasato was not even consulted about this change. He promptly resigned, and his loyal assistants followed their chief out of office. It is not difficult to imagine the consternation provoked in high official quarters by this reaction of the scientific specialist to clumsy manipulation by laymen.

The Fruits of Indefatigable Labor

Kitasato forthwith established a private institute, which became known as the Kitasato Institute, where he gathered round him his well trained and faithful pupils. But his activities were far from being limited to research work. He was tireless in organizing the medical profession in Japan on a legal basis, and after several years of strenuous work he secured the passage through parliament of a bill providing for the control and unification of the medical profession. The medical association which he thus created was presided over by him for many

(Continued on page 854)

What I Learned *from the* Children

A Project in Health Education

By FLORA STROUSSE

AS A PART of my job, a project has developed that seems to me to deserve especial emphasis because of certain factors that tend to complicate its fulfilment. It is a 12-page monthly pamphlet that I make up from voluntary material in the form of poems, drawings and short pieces of prose in which the children express their ideas about keeping well.

My problem was to develop health education that would be the children's own project and have for its quality some degree of continuity. Offhand it seems a simple problem, but in view of the fact that the usual period for returning each group is an interval of six months, it is anything but simple. It is practically impossible to carry over a high degree of interest in children if the method of application is sporadic health talks once in six months. In addition, most of the children have routine weekly health talks in their school curriculum. My reasons for not establishing the same sort of technic that is usually employed in health education were based on many things that I have learned through my contact with the children.

In the beginning we talked, and as we talked, I became more and more convinced that the average child's knowledge of "health," though startlingly spectacular quantitatively, is of a low order of quality. He has a moral attitude, but his creed has not stirred the imagination to a point of trying to understand it. Hygiene and nutrition are included in little rules, and rules that seem to have an end in the mere saying of them. Life is divided into halves—"good" and "bad" or "friends" and "foes." It seems much more important to the children to enumerate their arch enemies and kind friends than to understand what effect these little demons and superangels have on them.

In spite of blithe recitations in the health vernacular there is little true interest in well being. It is curious how seldom the children express the desire to have fine bodies or even to be beautiful. Many an angel whose appearance when tossing off a health jingle entirely reassured one that such a child could never disobey any of the rules that were mentioned has turned out to be the most violent offender. There is something so pathetically insincere in the amount that most of the pupils remember and the little that they have understood. A boy of 12 first brought to my attention vividly this defect. He was a nice lad and full of enthusiasm for telling.

"Teacher," he said, "do you know what happens if you don't wash?" I suggested vaguely that although I am somewhat familiar with the process, I was certain that his contribution would be added valuable information. It was!

"Well," he told me, "if you don't wash you will perspire, and if you don't wash that off it will go in again and form crystals, and then, you'll turn into crystals." I needed only to recover from the startling vision evoked by this description to decide that henceforth the children were to tell me!

Talking was not ideal. It did not form a basis for a continuous project. Besides, the age span is so wide that the interests were too varied for complete satisfaction in a general conversation. We started to write and make pictures, and from this a newspaper for the children and by the children evolved. It is a monthly paper, and every boy and girl between the ages of 5 and 18 is a potential contributor.

Every child receives at least one issue of the paper during the year, and when a contribution is published an additional copy is sent. This little paper reaches about 2,400 children in the year, and all of them are intimately concerned with it since it is their own. This medium for their expression has been the means of more

frequent contacts between us. It is no longer a matter of what they do when they come here. The mails bring me daily contributions, and they are so prolific in their expression that my only immediate problem is one of elimination! Not only is there a large quantity of material but the quality of it is becoming more natural and spontaneous, for the contributors realize that I am interested not so much in what they have learned as in what they think and understand. This truth is emphasized by the fact that it is their ideas that form the basis for all our discussions, and not mine.

The younger children are usually direct in their expression. It most often takes the form of a crude symbol (Mr. Tooth-Brush leads in popularity) and a little "shalt" scrawled underneath. The exceptional younger children are responsible for the most charming of all the contributions. The 9 and 10 year olds have the advantages of knowing more than the "tiny" ones and of not being self conscious like the "big" ones. They do it like this:

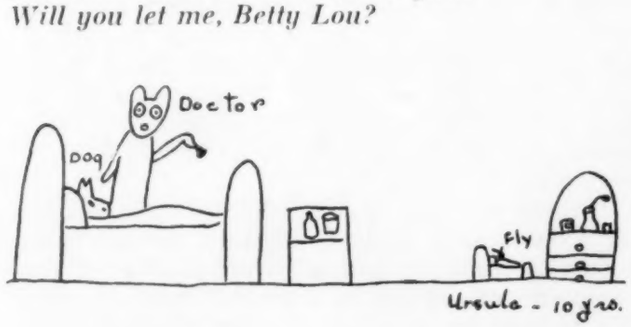
"BETTY LOU I WAN'NA TELL ON YOU"

By Jeanette. Age, 9 years

I wan'na tell old Santa about you—
Will you let me, Betty Lou?
I wan'na tell him that I bought you
A little red hood
And after that *you weren't good*
Betty Lou—I wan'na tell on you.

I wan'na tell him that you didn't wash your face
And on your dress you tore the lace—
Betty Lou, I wan'na tell on you.
I wan'na tell him that you did not eat—
And you did not wash your feet.
Betty Lou—I wan'na tell on you.

I wan'na tell old Santa about you.
Will you let me, Betty Lou?



DON'T EAT TOO MUCH JAM

By Ursula. Age, 10 years.

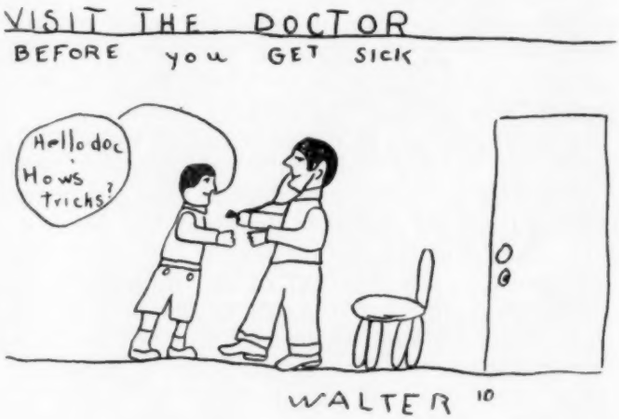
There was a little dog, and his name was Spot
When he got into the kitchen, he ate a lot.
Said a little fly, "I will settle here"
For doggie had gotten some jam on his ear.
Said the doggie and the fly, "It's the best they make"
But the next day they both had a belly ache.

By Dorothy. Age, 10 years.

This little girl's face is very black
Her arms are very thin,
She has a little hump on her back
That never will go in.

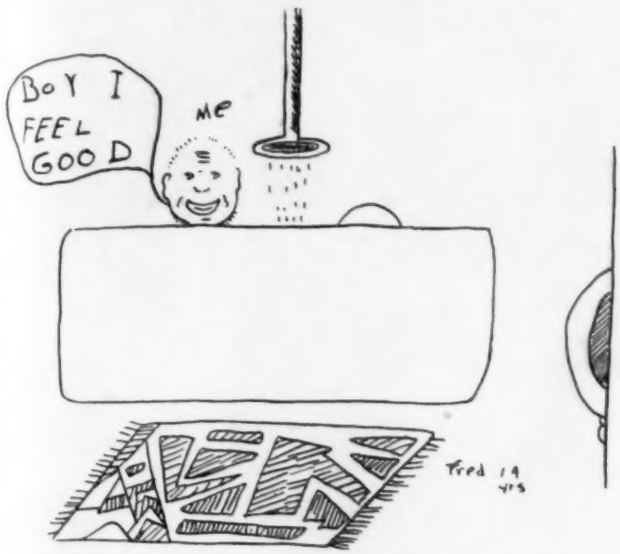
Because she did not stand up straight
Or ever do her duty—
Like wash her teeth, or comb her hair—
She'll never be a beauty.

There are other advantages when a medium of this sort is included in the activities of a health center. A child who is interestingly occupied does not worry about the imminent psychiatric or medical examination, and when in the throes of self expression is less apt to indulge in a fear of the dentist. There is a growing popularity expressed in the work of the children for the doctor hero. After all, there is something completely reassuring about the easy and familiar attitude with which the 10 year old Walter greets the gentleman who is to listen to his heart!

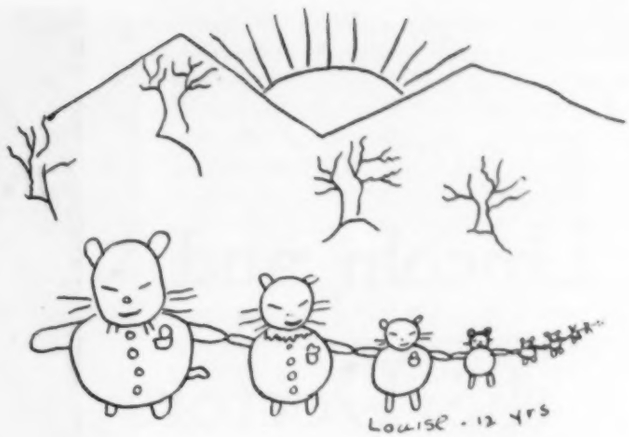


A final point that seems to me important in such a project is its capacity to reveal factors that are determining. A child not unduly influenced will often express the thing that is most important. It is not often possible in the routine of daily school for children to work uninfluenced by tradition. In formal examinations, too, there is the danger that the situation may act as a censor. Traits that are revealed to me in our informal group prove ultimately interesting to the psychiatrist. There is Sam, who persistently draws pictures of bandits with guns when he wishes to glorify "strength." He is not young, and this symbol of his ideal is obviously indicative. Another postadolescent, who was a shy and timid boy, became the hero of his own story: "He rescued an infant who was playing in the street, and for this act of bravery he was given a gold medal by a committee—a very special committee in his district." All of this under the title "Safety First!"

It is not always so simple. The adolescent boy and girl are often uncommunicative. They veil their growing consciousness of sex by protests, and they, too, cover up their lack of understanding by remarks that skim over the surface of things. In spite of health instruction they are often ashamed of natural processes. But not always, and at such times Fred is found in the bathtub, "feeling very good indeed!"



Then, there was the motherly Louise who "would make something for the little ones."



Purr, purr, purr—
Just see our fur!
It shines like silk
For we love milk!
Meow! Is supper ready?

It is my belief that a continuous project through which children can freely express their ideas is a serious and important contribution in health extension work.

There is magnificent material, and adequate time is given to the promotion of health. The advantage of this type of project is the fact that it acts as a gage to determine somewhat the extent of the child's understanding of the subject and the ability to apply it as a living experience.

Careful Handling Saves Food

WHAT may be economical purchasing in the market may not be true economy unless care is taken in handling and keeping perishable food. A good refrigerator in the home solves many of the food-keeping problems. Some foods should never be kept in a refrigerator but need care in other ways.

Green vegetables wilt because their moisture evaporates. Crackers and cookies take up moisture from the air and thereby lose their crispness. Light hastens the ripening of fresh fruits and vegetables; it has a bad effect also on fats and oils, which become rancid in the light and warmth.

Bacteria, yeasts and molds—microscopic forms of life which exist almost everywhere and develop rapidly under certain conditions—are the most troublesome causes of spoilage. Careful washing of all fruits and vegetables that are to be eaten raw is one precaution against these organisms, and cooking will destroy them as a rule. Low temperature, between 60 and 40 F., will retard their development and will also check the ripening of berries, tomatoes, peaches and other fruits. Lettuce and all the salad vegetables should be put away in moist wrappings or in a covered ventilated dish or pan in the coolest place available.

Fresh bottled milk is best kept in the bottles in which it is delivered. The milk bottles should be brought in, washed and placed in the coolest part of the refrigerator. Evaporated and dried milk will be found especially convenient for those homes that lack refrigeration.

Meat should be put away in a clean, dry, uncovered dish in a cold part of the refrigerator. Liver and other edible organs as well as fish spoil more quickly than do other cuts of meat.

Left-over food should be thoroughly heated before being eaten at a second meal, and the wisest policy in summer is to avoid left-overs in preparing foods. Cook sufficient food for only one meal, particularly in cases in which refrigeration is poor.

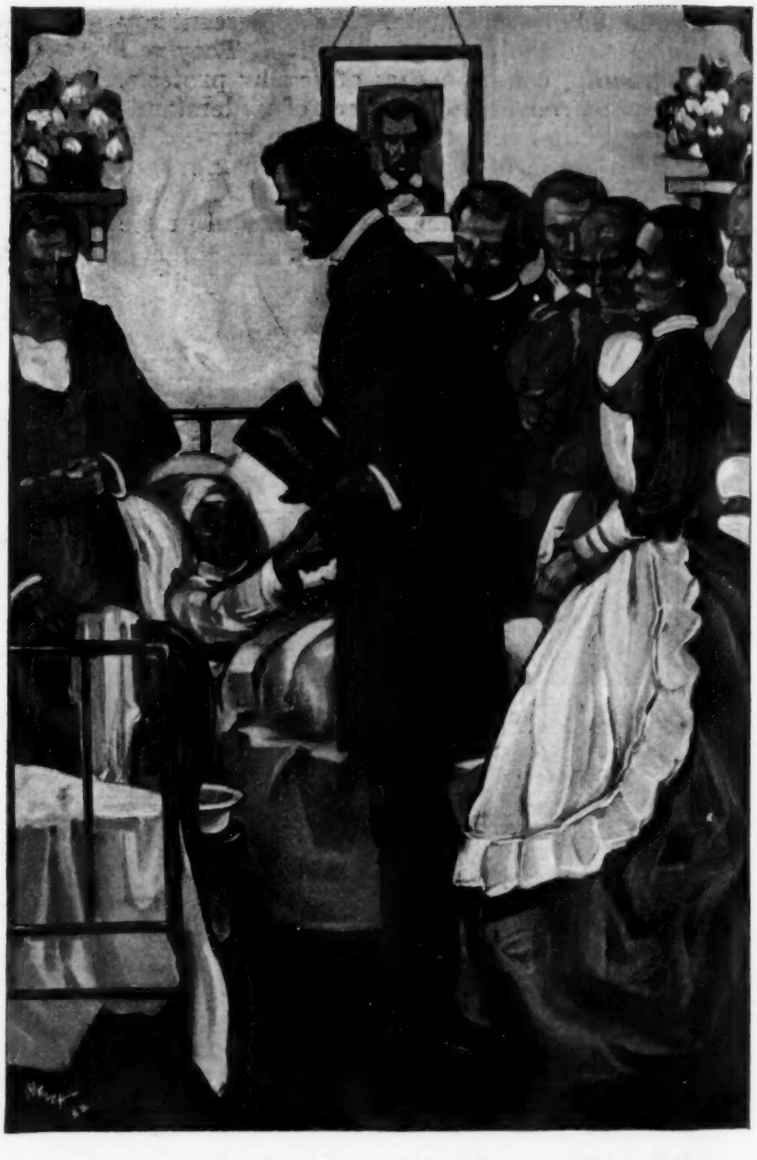
Butter should be kept wrapped or placed in a covered receptacle. For dry foods, the best protection is an air-tight container, such as a covered tin or glass jar. The bread box should be thoroughly scalded, dried and aired at least once a week and should not be shut air-tight.

These practical suggestions, provided by the U. S. Department of Agriculture, will save food.

Lincoln and the Doctors

By

Milton H. Shutes



Mr. Lincoln spent hours in visiting the wounded soldiers.

CHAPTER XIII

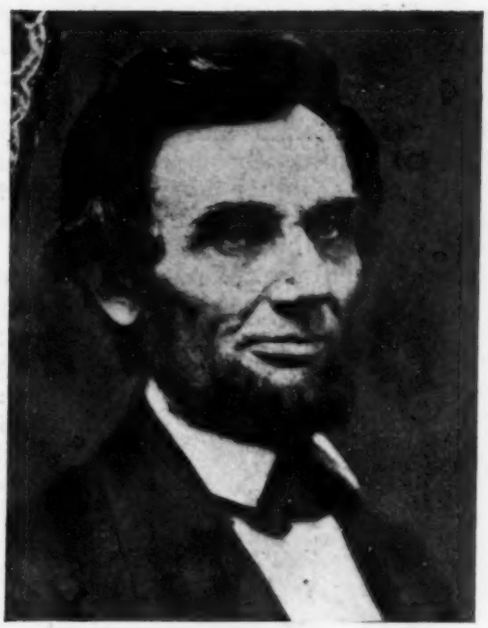
WHEN TIME and opportunity permitted, Lincoln always accounted it a privilege to visit the sick and wounded in the military hospitals because he was vitally interested in their welfare. Dr. John H. Britton, Major, U. S. Volunteers, relates the following incident: "Once I amputated at the shoulder joint the arm of a soldier at a hospital in Washington, which the President was visiting at the time. He was greatly interested but evidently had little fondness for surgery. At the conclusion of the operation, a younger surgeon, who had been watching me, expressed with some enthusiasm and in a voice audible to the President, his congratulations upon the operation and I remember well being startled by the voice of the President behind my back making the solemn inquiry, 'But how about the soldier?'"

The President's penchant for social contact was restricted by his official duties, but Mrs. Lincoln had time and energy to express their mutual sympathies. From the beginning of the war, she was a constant worker in and for the camps and hospitals. After the loss of Willie in February, she spent the summer of 1862 at the Soldiers' Home, mourning over her son and visiting the hospitals. Papers of the South, in derision, referred to her as the Yankee Nurse, but the friendly *Daily Morning Chronicle* of Nov. 29, 1862, contained the following item on her return from New England: "Mrs. Lincoln returned to Washington on Thursday evening, apparently much improved by her visit to the North. The sick and wounded soldiers in our hospitals will hail her return with joy."

The following summer on one of her morning visits, July 2, 1863, her coachman fell from his accidentally dislodged seat when he drew up before Mount Pleasant Hospital. As the frightened horses dashed away across the open space, Mrs. Lincoln sprang from the carriage. She was badly shaken up and painfully bruised, especially from a bleeding gash on the back of her head, which had struck a stone. This injury terminated her hospital work for the remainder of the year, which she spent mostly away from home, thereby adding to the accumulation of general criticisms, mostly unjust, which flew at her like steel clippings to a magnet. Yet all this benevolent activity was done without benefit of

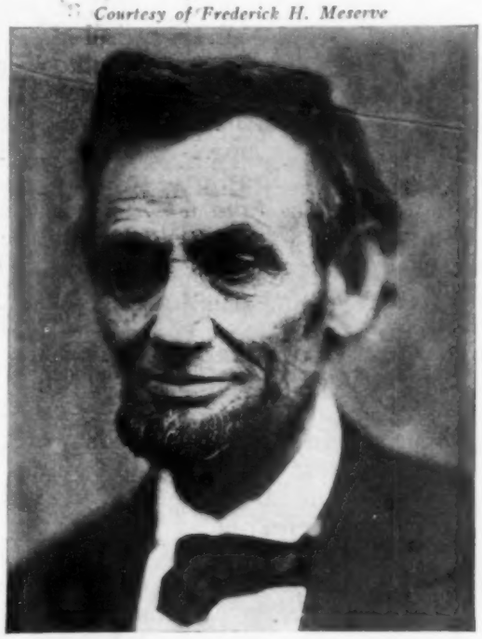
press agent—quietly and generously.

And there was a great abundance of the sick and hurt for the President and his wife to visit. In Washington alone there were twenty-five hospitals totaling 21,426 beds aside from some post hospitals; two of the latter were located on the grounds of the Executive Mansion, and one was close by. In addition to his great interest in the boys themselves, the President gave much thought to hospital construction and one hospital in particular was he anxious to see erected as a model for others. To the doctors in charge he offered suggestions for various aids to comfort, contributing from his own purse for that purpose. He sent the White House gardener with seeds and plants to embellish the bare surroundings. The largest military hospital in Washington, containing 2,575 beds and consisting of twenty-five or more detached pavilions arranged "en echelon," was named the Lincoln General Hospital. When it was opened in 1862, its medical director was Surg. Henry Bryant who in time was succeeded by Drs. G. S. Palmer, Harrison Allen, Robert Bartholow, J. Cooper McKee and Webster Lindsley.



The years between 1861 (upper picture) and 1865 (lower picture) worked havoc on mind, body and nerves.

Courtesy of Frederick H. Meserve



The Lincoln General Hospital was a temporary war structure. When the president died, *Harper's Weekly* began a campaign for a popular subscription to erect a permanent hospital for the soldiers and sailors, who, as stated in its issue of April 29, 1865, "had no more tender and faithful friend than Abraham Lincoln. . . . To a man of his broad and generous humanity no monument could be so appropriate as a Hospital." Though the idea met with popular sympathy, the project was never consummated.

During the campaign of the Army of the Potomac near Washington, Lincoln made frequent visits to the battle-fields and saw the wounded and the dying, and on his way to and from the Soldiers' Home, he often passed long lines of ambulances laden with the sick and wounded. These sights always contracted his heart with pain and made him long the more for peace. On a memorable visit to City Point on the James River, Mr. Lincoln announced to the surgeon in command of the large hospital there that he wished to visit all the soldiers in his charge. The surgeon, Edward S. Dalton, asked the President whether he realized what that meant, as there were more than 5,000 in the various wards. But Mr. Lincoln "guessed he'd go as far as he could anyway." After some hours of visiting, handshaking and pleasant inquiries, Mr. Lincoln returned with the medical staff to the surgeon's office, when an orderly came in, saying that one ward had been overlooked and the boys wanted to see the President. The surgeon tried in every way to dissuade him but failed. Returning to the office, the surgeon became solicitous about Mr. Lincoln's arm after so much hand-shaking; but with the pardonable pride of all strong men, Lincoln strode over to where an ax lay against a log, and for a few minutes made the chips fly; then he extended his right arm and held the ax horizontally. A hospital steward, while Mr. Lincoln drank the glass of lemonade he had made, gathered the chips "that Father Abraham chopped."

Adelaide W. Smith, independent worker for the Sanitary Commission, relates that on one occasion, while Lincoln was visiting at City Point the sick and wounded of the 9th, 6th, 5th and 2nd corps and the Corps d'Afric, Jerome Walker, a young man connected with the commission, who later became a physician in Brooklyn, said, pointing to some tents close at hand, "Mr. President, you do not want to go in there!"

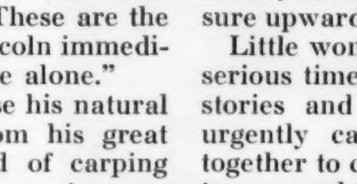
"Why not, my boy?" he asked.

"Why, sir, they are sick rebel prisoners."

With a hasty movement, the President replied, "That is just where I do want to go," and he strode into the tent, shaking hands and offering words of comfort, to the great surprise and pleasure of the Confederates, who eagerly responded to this cordial gesture.

On another occasion, while he was with General Grant, the general said, "These are the Confederate quarters," and Mr. Lincoln immediately replied, "I wish to go in there alone."

Though all this tended to increase his natural sadness, yet it was a change from his great duties and nervous cares; instead of carping critics and questionable friends, he met young men who loved and idolized him, to whom he was "Father Abraham." So these visits to city and field hospitals, though depressing in their way, were at the same time good for both body and soul.



Certainly he needed this change, for those days offered but slight chance for recreation or exercise. What there was of physical recreation consisted of "driving out," but even that mild overture to health was neglected when Mrs. Lincoln was away. In the summer of 1863, he wrote her as follows: "Tolerably well. Have not rode out much yet, but have at last got new tires on the carriage wheels and perhaps shall ride out soon"—a message that promised but little by way of obedience to "orders." Misunderstanding would have met any effort to play a little, even if he had been disposed to indulge in handball, billiards, bowling, or throwing horseshoes, as he was fond of doing back in Illinois. When urged to take a vacation for a fortnight, he replied, "Two or three weeks would do me no good. I cannot fly from my thought, my solicitude for this great country follows me wherever I go."

Mrs. Lincoln, Dr. Stone and friends finally prevailed to the extent of a summer residence 3 miles from the Executive Mansion on an elevation to what was then termed Soldiers' Rest and is now one of many such soldiers' homes. Here he escaped the greater heat of the city and could enjoy the cooler breeze of that quiet place. Here he could rest and muse and think uninterruptedly and, incidentally, drape his long legs over the furniture in masculine comfort.

Abraham Lincoln was human and suffered from the torments of civilized feet—corns and callouses. An engaging individual with an air, whom the President addressed as "Doctor," one Isachaar Zacharie, cared for those large feet so successfully that Mr. Lincoln gave the chiropodist an autographic testimonial of his skill. At Soldiers' Rest, however, he could shed his constringent shoes and even his carpet slippers, and enjoy those famous blue woolen socks of his.

Nevertheless, each day, he was back at his desk or haunting the telegraph office and Secretary Stanton's room in the War Department close by. Sleepless nights and protracted days were pulling his habitual low blood pressure lower; anxiety and worry were urging the pressure upward and sclerosing his arteries.

Little wonder that in serious company and in serious times he fell back on his love for jokes, stories and laughter. On Sept. 22, 1862, he urgently called all members of his cabinet together to consider a matter of supreme importance—and then he read to his amazed confreres a humorous story; yet no one laughed but himself. After trying another with a similar response, he put Artemus Ward away and exclaimed, "Gentlemen, why don't you laugh? With the fearful strain that is upon me night and day, if I did not laugh, I should die, and you need this medicine as much as I do!" Then, with a sigh, he pulled a paper out of his deep hat and read to the astonished members the first draft of the Emancipation Proclamation! He repeatedly said he would die if he did not laugh, and so on all and any occasions, at meals, at congenial gatherings and at solemn conclaves, he would be "reminded." Thus his keen sense of humor was constantly at work in mitigating the debilitating oppression of the rebellion which he so feared he would not survive.

One of these reminders, which is of some interest in this story, followed the announcement of the cause of the absence of Gen. W. W. Morris, one of his invited guests to Gettysburg. Turning to his Postmaster-General, Lincoln said, "Blair, did you ever know that fright has sometimes proved a sure cure for boils?"

"No, Mr. President, how is that?"

"I'll tell you. Not long ago, when Colonel ———, with his cavalry was at the front and the Rebs were making things rather lively for us, the colonel was ordered out on a reconnaissance. He was troubled at the time with a big boil where it made horseback riding decidedly uncomfortable. He hadn't gone more than two or three miles when he declared he couldn't stand it any longer and dismounted and ordered the troops forward without him. He had just settled down to enjoy his relief from change of position when he was startled by the rapid reports of pistols and the helter skelter approach of his troops in full retreat before a yelling rebel force. He forgot everything but the yells, sprang into his saddle and made capital time over fences and ditches till safe within the lines. The pain from his boil was gone and the boil too, and the Colonel swore that there was no cure for boils so sure as fright from rebel yells and that the secession had rendered to loyalty *one* valuable service at any rate."

No doubt he enjoyed telling this story to his medical friends and acquaintances and to certain of his official colleagues, many of whom

were sons of doctors, such as his private secretary John Hay, Vice-President Hamlin, Secretary of State Seward, Secretary of War Stanton, Speaker of the House Colfax and others.

There are many autograph notes concerning doctors, which are now carefully preserved, consisting of requests and orders, all written in his usual courteous style. Among these are his orders to Dr. John P. Gray to examine Dr. David M. Wright and Private Lorenzo Stewart, as to their sanity; his notes assisting Dr. E. K. Stone to introduce Dr. Kidwell's new antiseptic, and Dr. Worster to introduce Harmon's Sandal Sock, to the army, and his messages helping some through a difficulty, granting favors to others, and seeing to it that one received deserved approval and another merited punishment.

These telegrams and scribbled notes are replete with human interest. It was a source of satisfaction to assist an anxious lady in the search for her husband Dr. Joseph J. Williams, a Confederate prisoner, but the affair of Dr. Wright brought to him only pain. In addition to a letter, dated Sept. 10, 1863, giving specific detailed instructions to Dr. Gray in his hope of establishing insanity in the case of Dr. Wright, there are the following telegrams which reveal a story of hopeless tragedy for all concerned. One was dated Oct. 15, 1863: "Postpone the execution of Dr. Wright to Friday the 23rd instant, (October). This is intended for his preparation and is final." The other was dated two days later: "It would be useless for Mrs. Dr. Wright to come here. The subject is a very painful one, but the case is settled." Both telegrams were addressed to Major-General Foster, Fort Monroe, Va., and were signed: "A. Lincoln."

It is often related that Abraham Lincoln is the only President of the United States who, while in office, has been under enemy fire. When General Early stormed Washington in 1864, Mr. and Mrs. Lincoln visited Fort Stevens to witness the battle of July 11. He, with a "plain clothes man" and a medical officer, stood on a parapet within range of a tree that concealed a rebel sharpshooter who was successful in picking off man after man. Mr. Lincoln refused all importunities to seek safety, until the medical officer was shot down by his side and he was "ordered" off the parapet by the officer in command, General Wright. Did the doctor stand there because of curiosity, or because of the honor and thrill of standing in danger beside the President, or because of a generous thought that his bright uniform might have a selective action on a Minié ball? The motive is not as important as the fact that the sharpshooter chose the uniform in preference to the towering silk hat. So here are a cheer and a salute to that unremembered and until now unknown physician, whose name is here presented in appreciative retrospect—Dr. C. C. V. A. Crawford, assistant surgeon, 102nd Pennsylvania Volunteers. Dr. Crawford recovered from his wound and was honorably discharged on November 19 of the same year. His hospital cot, we may be sure, was one that Mr. and Mrs. Lincoln did not fail to visit.

Soon after Lincoln became President, a life insurance expert, Rufus Small, attempted to write a policy on his life, but Mr. Lincoln refused to take the insurance agent seriously and offered this humorous dig at doctors: "I am not ready yet to sell my bones to a physician." His widow and sons would have been saved much humiliation at the hands of Congress if he had "sold his bones," as he expressed it, to a reputable insurance company. However, life insurance was new and Mr. Lincoln lacked confidence in its surety, and possibly, also, his old streak of superstition was a subconscious restraining influence.

But aside from the ever present danger of violence, the burden of his office was steadily doing its work of attrition, disintegrating the rock and iron of his constitution. His old friends were shocked at the change in him. Noah Brooks, who knew him in Illinois, said that the change which a few years had made was simply appalling. John Hay wrote that in mind, body and nerves, Lincoln was a different man at the second inauguration from the one who had taken the oath in 1861. Horace Greeley in his weekly *Tribune* of April 22, 1865, said: "When we last saw Mr. Lincoln, he looked so weary and haggard that he seemed unlikely to live out his term."

He aged with great rapidity. When the great sculptor Augustus Saint Gaudens first saw the life mask of Lincoln's face made by Clark Mills in the spring of 1865, he insisted that it was a death mask.

The growing exhaustion of the country was reflecting itself on the face of the President, making it sallow, haggard and dark circled under the eyes. He once said, "I sometimes fancy that every one of the numerous grist ground through here daily, from a senator seeking a war with France down to a poor woman after a place in the Treasury Department, darted at me with thumb and finger, plucked out their special piece of vitality and carried it off. When I get through with such a day's work, there is only one word which can express my condition and that is 'flabbiness.'" And yet, when urged to rest, he replied that the tired part of him was inside and out of reach!

Even victories and a brighter prospect did not offer much surcease from the weight of events as they poured on him. Grant was slowly and surely closing the jaws of his war machine on Richmond, and blood oozed through every tooth of the juggernaut. People were clamoring to have the terrible flow stopped, and Lincoln was feeling the horror of it as never before. Dr. Stone again warned him that his nerves were nearing exhaustion. On Feb. 6, 1865, the

Attorney-General stormed in, announcing his decided disapproval of so much pardoning of soldiers for desertion. Lincoln jumped up and shouted back at him, "If you think that I, of my own free will, will shed another drop of blood . . ." and then fainted and was put to bed. Dr. Stone ordered him kept there for an entire day and night, and with another warning insisted on more rest and shorter working hours.

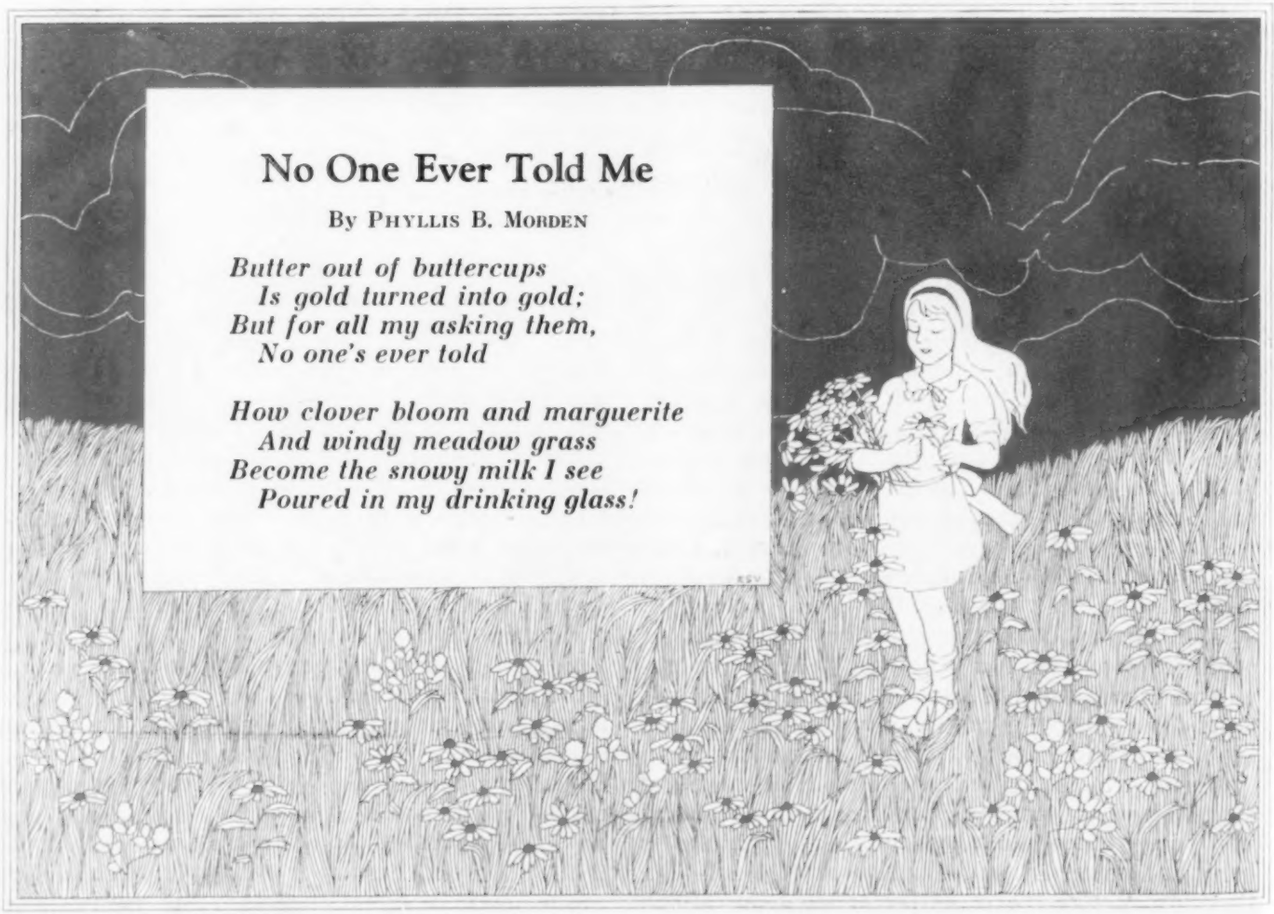
This rest was not far off. Soon General Grant invited him to come to City Point for a conference. He accepted, and he took Mrs. Lincoln and Tad with him on the steamer "River Queen," on March 22, 1865. The river was wide and rough, and when Grant and his staff came aboard at City Point they were welcomed with his usual cordiality and an apology, "I am not feeling very well. I got pretty well shaken up on the bay coming down and am not altogether over it." One of the staff urged on him a bottle of champagne as the best cure for seasickness. "No, no, my young friend, I have seen many a man in my time, seasick ashore from drinking that very article." But he was now to have a few days of comparative ease and the relaxation of evenings around roaring camp fires.

Events were now crowding each other. On March 27, President Lincoln, General Grant, General Sherman and Admiral Porter met in their memorable interview. On April 2, Petersburg fell, and the next day Richmond was occupied. Mr. Lincoln exclaimed, "Thank God that I have lived to see this! It seems to me I have been dreaming a horrid dream for four years and now the nightmare is gone. I want to see Richmond."

The famous trip to Richmond was made in safety, and on Sunday, April 9, the River Queen docked again in Washington, and there Mr. Lincoln learned that Lee had surrendered at Appomattox.

Meanwhile, Secretary of State Seward had suffered a severe accident during his absence, and Mr. Lincoln's first act was to visit his sickroom and there relate to him his experience in Richmond. Throwing himself across the bed in boyish abandon, with his head propped in his hand, he told his Secretary of State the story of the ending of the war and then, lifting himself up, he exclaimed, "And now for a day of Thanksgiving!"

(To be concluded)


No One Ever Told Me
By PHYLLIS B. MORDEN
Butter out of buttercups
Is gold turned into gold;
But for all my asking them,
No one's ever told
How clover bloom and marguerite
And windy meadow grass
Become the snowy milk I see
Poured in my drinking glass!

The Child *and the* Child Guidance Clinic

By
JESSIE C.
FENTON

Mary is such a comfort—she never gets a bad report card!

LITTLE JOHNNY seems listless and tired. He does not want to play; he refuses to eat; he is cranky and irritable, and he cries at the slightest provocation. His cheeks are flushed and hot; his tongue is coated. Last night he was restless, coughed frequently and cried several times. Such a state of affairs in any intelligent American household is enough to send Mother forthwith to the doctor. Perhaps it is just a touch of cold, she tells herself, but then, it might be something worse! It will be best to find out at once, in any case, she thinks, taking down the telephone receiver, for she knows that a sick child is a matter for expert attention. She is a competent housekeeper—and proud of it—and a good mother, too (she hopes), and has learned quite a lot about childish ailments and how to care for them. But she would not for a minute think of taking the responsibility of deciding what it is that ails Johnny; that is for the doctor to say.

In increasing numbers, year by year, mothers are going a step farther than this and are taking Johnny and Mary at regular intervals to their doctor, at his office or in the health center or clinic, for examination, simply to see whether they are as well as they can be, though never a symptom, so far as the mother can see, indicates anything out of the ordinary. The best children's physicians are tending more and more to the practice of regular consultations in order to keep the well child in good health and not merely to cure him when he falls ill.

But what happens when something goes wrong with Johnny's behavior rather than with his temperature and his appetite? For months now he has been showing a distressing streak of stubbornness (so characteristic of his father's people!). Whatever it is that he is asked to do, he says "won't!" It is so exasperating that Mother feels as if she could scream sometimes. She does not believe in spanking, but yesterday she did snatch him up and shake him soundly. She was ashamed, but it certainly was a relief to her feelings! And his teacher is complaining, too. Johnny does not pay attention; he teases the other children, and he is getting dreadfully behind in his arithmetic. The whole family is worried. Mother and Dad have spent many a miserable evening talking it over; Mother has wept and said that goodness knows she tries her hardest and is just working her fingers to the bone for her family, and she cannot understand why she deserves to have such a worry—Mary never acted like that! Dad has sworn a few swears and said it ought to be whipped out of him and has tried it once or twice, in spite of Mother's tearful protests. And Johnny has been on the carpet repeatedly. They have tried everything —scolding, pleading, appealing to his better nature and shaming him by telling him what a comfort Mary is to them and how she never gets

a bad report card or breaks her mother's heart by her ingratitude.

Mother has even written, guardedly, to the question and answer editor of that magazine on child care to which she subscribes, but all the help she got there was the advice to see a psychiatrist or take the boy to a child guidance clinic. With flaming cheeks she has burned the letter; she would not dare show it to Dad! The very idea! As if their Johnny were a degenerate or something! Why, he is just as normal as any one. There has never been any insanity on either side of their family, thank goodness! And Johnny is not a bad boy, either; he is not one of these problem children you read about, not a bit of it! He has never stolen a thing in his life, and he is as truthful as can be. Why you can trust him absolutely. He is not really mean either, though he does love to tease. You should see the way he takes care of his guinea-pigs—so fond of them and so gentle! He is smart, too, about a great many things, but he always hated arithmetic. That is natural enough; she never liked arithmetic either. Thus reflects Mother angrily and has half a mind to discontinue her subscription to the offending magazine. Psychiatrist, indeed!

It took a long time for the concept to become widespread that expert advice is necessary for the physical welfare of children, and there are still all too many families in which home remedies and the neighbor's advice are tried first and the doctor is called only as a last resort. It is small wonder, then, that people are slow to awaken to the realization that mental and emotional growth and development are equally important and equally subtle, complicated, and difficult to understand and to prescribe for. Parents who would not dream of using their own judgment in planning a child's diet or deciding what has caused a heightened temperature still feel competent to decide unaided what

They spend miserable evenings talking it over.

causes his difficulties of behavior and what to do about them. The average parent is liable to feel that a certain stigma attaches to the admission that one is not perfectly competent to handle the behavior problems of one's own children. He would probably be genuinely ashamed to have it known that he was seeking expert advice about such matters, because he feels vaguely that expert advice is reserved for serious problems—children who are queer or different, most likely a bit defective or even degenerate, and not for normal children like his own.

The human mechanism is a marvelously intricate, delicate and complicated affair, and the mechanisms of mind and personality are no less complex than those of physical health and disease. It really is absurd, when one stops to think of it, for the average layman to suppose himself possessed of perfect insight into these mechanisms, even within himself, to say nothing of those within another human being; for in human behavior, as in health, a given symptom is not a thing to be treated for and by itself but is rather the expression of hidden underlying causes. Thus, when a child has a fever, the physician does not merely attack the fever as such; in addition, he finds out what conditions have caused the temperature to rise and tries to change them. These causal conditions in one case may be totally different from those in another and require totally different treatment. Similarly, a behavior problem is not a thing in itself; it is a symptom, and the causes in differ-

The psychiatric social worker studies the home background behind the child's problems.

ent cases may be totally unlike. Johnny's negativism may be an expression of a sense of insecurity or of feelings of inferiority to the too obviously preferred Mary; it may be a reaction to too much thwarting, or perhaps the chief cause may lie still farther afield in the fact that his mother has too little recreation or that his father was too sternly dealt with in his own childhood. This being so, one cannot expect to cure the negativism by telling Johnny that nice little boys do not say "won't!" or by promising him a piece of candy or a gold star for saying, "Certainly, Mother dear!" or yet by spanking him and telling him that Mother does not see what has got into him lately! For the negativism, like the fever, cannot be cured by itself. The conditions that are producing it must be changed to give it a chance to disappear.

Johnny is not an abnormal creature; he is just an ordinary little boy. Every little boy and every little girl presents behavior problems, and any parent who pretends to himself or to others that his child is an exception is either remarkably unobservant or not quite truthful. Most of the problems work themselves out more or less in the course of time, perhaps without serious results. Even if Johnny's parents simply continue to muddle along as confusedly as ever, Johnny will in all probability grow into a fairly acceptable sort of person, perhaps a bit more grouchy to his wife at times or a bit more cantankerous to his employees than seems reasonable, but not so different, after all, from the rest of us. Similarly, perhaps in nine cases out of ten the child with a touch of fever will pull through under home remedies, even if the parents do not call the doctor. But in neither instance, probably, will recovery be as rapid, as easy or as complete as it might have been—and, of course, there is always the tenth case to consider! For the uncared-for fever may take a turn for the worse, so that no matter how frantically the parents may call for the doctor, it will be too late, and the ordinary everyday little behavior problem may grow and branch out into worse difficulties until at last it is too late to seek advice, and one has on one's hands perhaps an incurable neurotic, perhaps a case of actual insanity, perhaps a delinquent or a criminal. Insanity and criminality are not inborn, nor are they conditions that spring into being full fledged; they are the culmination of symptoms that were originally rather simple and trivial. There is no clear-cut dividing line between the normal personality and the insane or the criminal one. It is all a matter of degree rather than of kind.

The possibility of serious outcome from neglected or poorly handled behavior problems is not so remote as one might at first thought suppose. At the recent White House Conference on Child Health and Protection, it was estimated that "the chances of persons living in states with good facilities being committed to hospitals for the mentally ill in the course of their lifetimes are about one in twenty. Not only this: the chances of developing a psychosis or severe incapacitating neurosis (whether the person is sent to a hospital or not) are about one in ten." By far the greater number of these conditions would be preventable if enough skill and wisdom could be brought to bear on the treatment of the difficulties in their earliest beginnings, usually in childhood.

Since the publication in 1908 of that remarkable and poignant human document, "A Mind That Found Itself," by Clifford W. Beers, and the subsequent foundation of the National Committee for Mental Hygiene, interest in mental hygiene has grown rapidly until now there are many individuals and agencies whose chief concern is to make the lives of children happier and more wholesome, to free them from fears, griefs and worries, and to save them from being misunderstood, repressed or thwarted. The concept of mental hygiene is not merely to prevent potential cases of insanity but to help each person to be more nearly in perfect mental health, for just as there are practically no human beings who are perfect in physical health and organization, so likewise there is probably no one, child or adult, whose mental health cannot be improved.

The whole parent education movement is a great agency for mental hygiene, since it teaches parents how to help their children to develop more happily and effectively. All experiments in individualizing the work of schools are mental hygiene measures, for a school program that does not fit the needs of a given child is bound to damage his mental health. More directly aimed toward mental hygiene is the work of such agencies as habit clinics and child guidance clinics.

The child guidance clinic consists of a group of experts who study a problem of behavior, each from his own point of view, and who then pool their combined opinions and observations, and plan a course of treatment. The director of the clinic is usually a psychiatrist. This is a person, usually a physician, especially trained in the study of human mind and personality. His job is to discover how this particular child's mind and emotions are functioning. He tries to find out what are the child's inmost griefs and worries, what things make him unhappy or angry, what he fears and what he hates. He tries, too, to discover the child's pleasures, what he enjoys, what he wishes for, dreams of, hopes for. How does the child feel about school, about his home, his parents, his sisters and brothers, about himself? These are samples of the types of study the psychiatrist makes; there are other matters, too, that he knows how to investigate, searching carefully, delicately, sympathetically, for the thoughts and feelings that the child does

not show to all the world nor even to his own family. Indeed, often enough the child does not himself either know or understand his own feelings about these matters.

The psychologist with the clinic examines the child's mentality, measures the maturity of his mental processes and tests the extent of his knowledge. Educational tests show where he stands in the various school subjects and help to reveal whether he may be in a grade too hard for him or perhaps, on the other hand, too easy. These facts need to be known before the child can be fully understood, and they may make a great deal of difference in the treatment that he needs. Tests that reveal special interests and aptitudes, such as mechanical or artistic talents, are also helpful toward a better understanding of the child.

The clinic utilizes also the services of a psychiatric social worker. This formidable title belongs usually to a quiet, kindly, sympathetic person with a gift for winning confidence and for tactful listening, whose function it is to go into the child's home and find out the background behind the problems of the child. She records the child's early history—what illnesses he has had, the facts of his early development, how his problems began, what efforts have been made to cope with them. She finds out, likewise, the more personal problems of his parents, for in the majority of cases the troubles of the child have their roots in the personalities and the problems of the parents. It is not at all uncommon to find that little or no work needs to be done for the child directly, but that it is the parents who need help in understanding better their own motives and desires and straightening out the kinks in their own relationships to each other and to the other members of the family, for the personality of a child is inextricably interrelated with the lives and with the personalities of those who are about him.

A physical examination, either by the psychiatrist or by another doctor, completes the data needed for an adequate understanding of the problem.

The clinic does not attempt to cure the child, for obviously the cure must be accomplished within the child's own environment, where the difficulty arose. What the clinic tries to do is to show the parents, teachers and others who may be involved how they can change their own as well as the child's way of living in such a manner as to remove the sources of trouble and give the child's personality a chance to develop normally.

There are not enough child guidance clinics as yet to handle even a fraction of the problems that really need such care, but they are increasing in number at a tremendous rate. In 1919 there were none, in the modern sense, and by 1928 a survey by the National Committee for Mental Hygiene found that there were 355. Since then a great many more have been established. In several states, such as California, Colorado, Delaware, Illinois, Iowa and Virginia, visiting clinics are operating which go about from one community to another, study cases referred to them and teach the doctors, nurses, teachers, parents and others in the community how to deal with the children who present noticeable problems.

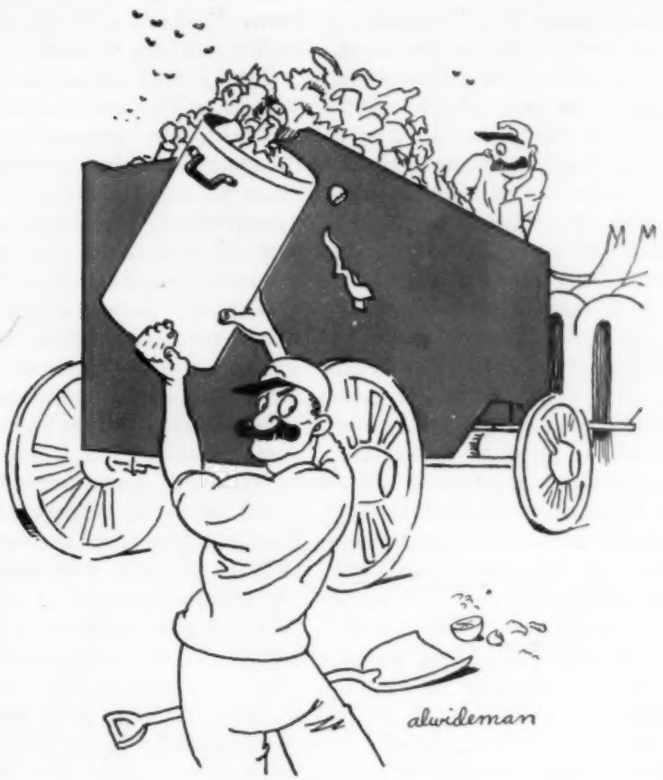
It is interesting to note how the concept of what constitutes a "problem" is changing. The earliest clinics dealt with serious cases, such as children who ran away, stole or were extremely peculiar and difficult to handle. Now the clinics handle thousands of cases of such difficulties as self consciousness, shyness, fears, quarrelsomeness, bed wetting and teasing. In the 1919 Conference on Child Welfare, the only recommendation in regard to mental conditions was that atypical and retarded children in schools should receive psychiatric examinations, while the White House Conference of 1930 declares that "in early childhood . . . about one-third of apparently normal children of self-sustaining families, average in intelligence, have behavior problems sufficiently marked to necessitate treatment."

This does not mean that "problems" are becoming more common; it means that we are awakening to the fact that the time for treatment is in the beginning, before matters become serious, and that every child has a right to the best possible chance for complete mental health as well as for complete physical health.

The time will probably never come when scientists will know how to prevent or even to cure all human ills, either physical or mental. The time will come, however, and is now on the way when concern for the mental hygiene of children will be as much a matter of course as care for their physical hygiene, when intelligent parents will be ashamed not to avail themselves of expert advice on the behavior problems and mental development of their children and when the mental hygienist, whatever his title, will be as much a matter of course as the doctor and will work jointly with the doctor, not only to cure ailments but to keep children as normal and healthy as they can be, mentally as well as physically.

Do We Want Clean Cities?

By
GEORGE
ALBERT
SOPER



When the contents rise so high that as much is spilled off as is put on, the load is complete.

THE PEOPLE who live in Pleasantville are considerably worked up over the garbage question. When the place was a mere collection of isolated houses there was no problem about it. The waste from the kitchen was fed to the hogs and chickens; the ashes were sifted to recover the unburnt coal, and the powdery white residue was put on the roads. Boxes were split up for kindling wood; rags were saved, as were bottles, metals and other things which might have some future use or which could be sold to the junk man who came around once in a while.

As the town grew, it became less and less convenient to dispose of the wastes in these ways. With the building of many houses came restrictions as to the keeping of hogs and chickens, and there were not so many places where things could be put.

Men are now employed by the village to carry the garbage and other wastes away. Since this service is paid for by the public and there seems little use in saving any of the material, the householders have fallen into the habit of letting the men take it all.

The collectors get around twice a week. Generally they come on the same day but not always at the same hour. The cans of garbage, ashes and other things are put out on the sidewalk at a sufficiently early hour to make sure that the men will empty them. If there is no can, a barrel, box, basket or dishpan is used. Bundles done up more or less tightly with newspaper and string are common. Occasionally the accumulations remain in front of the houses for hours, an object of interest to cats, dogs, rats and flies, and sometimes to human beings. Now and then a new resident buys a can with a cover, but the cover soon disappears.

The men who do the collecting look like foreigners, but it is impossible to determine whether or not they are, since they are covered with ashes and are not inclined to be friendly. They are strong and vigorous and seem to take pleasure in the strenuous exercise of their muscles. They handle the heavy cans as though they were jugglers at the circus and slam the empty ones down with a resounding bang. Their collecting vehicle is an old-fashioned, high-sided affair. It is made still higher and more difficult to fill by having boards fastened on top to increase the capacity. Around it are hung dilapidated bathtubs, baskets and other large articles which people want to get rid of. When the contents rise so high that as much is spilled off as is put on, the load is complete. The men then drive away with it.

As the collecting vehicle moves on, it leaves a trail of paper, ashes and other refuse behind it, for it has no cover, and the jolting and wind

cause the contents to be spilled and blown out, to say nothing of the quantity that escapes when the cans are emptied. A little of this material on an otherwise clean pavement is startlingly noticeable. Thus it happens that a street looks dirtier after the wastes have been collected than it did before.

The street surface is supposed to be cleaned, also at public expense, but really it is the hurrying automobiles and the rain which do most of the cleaning. The wind from the motor cars blows the dust and dirt toward the houses, where the citizens have to bother about it, and the rain washes out the gutters now and then. There are men with brooms and sometimes mechanical sweeping and watering machines, but if any one watches them it is obvious that they are not as effective as they should be.

When the place for the disposal of the refuse is reached by the collectors, the vehicle is dumped. People are picking over what has been left at the dump before. They welcome the new arrival with interest. They are looking for things which are of no value singly but collectively can be sold for enough to make their recovery profitable. It is hard to find out how much money these people make. Apparently some of their profits have to be shared with an overlord who possesses authority to say who shall and who shall not be admitted to the dump. Picking is not a pleasant occupation to think of, much less to engage in. It is the most insanitary practice that health departments tolerate. Aside from the ashes, garbage and papers, there are broken bottles, nails, and sharp points and edges of metals to look out for. Infectious material from sick-rooms cannot be avoided. Rats feed on the kitchen waste and make their homes in the shelter so abundantly afforded by the cans, boxes and papers. The place is a paradise for flies and vermin. Fire occurs and may burn for weeks, giving off a peculiarly offensive odor. Aside from the collectors and pickers, nobody goes within a mile of the dumping place, if it can be avoided. Neighboring property holders are continually protesting against it. For the pickers it seems to have a fascination.

The residents of Pleasantville are disgusted with this kind of refuse collection and disposal, and from time to time they have resolved to put a stop to it. Committees have been formed to look into the matter and decide what should be done. Nothing has been accomplished by them so far. There have been times when they have felt that a solution was near, only to find that those who have had the matter in charge have been "taken in" by somebody or have been badly fooling themselves.

The latest idea is to build an incinerator which will burn up everything. But there is nobody who is willing to have an incinerator located near his property and there is skepticism as to the absence of smell, dust and other disagreeable conditions at the plant, to say nothing of the odorous and unsightly collecting vehicles constantly in the neighborhood.

Not all persons who have investigated the incinerator question are enthusiastic about it by any means. Theoretically the idea is good, but there seems to be a practical side to be considered also. It is said that the construction of incinerators is a business with a good deal of up-to-date, high pressure salesmanship behind it. The same is true of mechanical equipment. Recognizing the usefulness of public opinion, skilful efforts are made by commercial companies to educate it for business purposes. It pays to advertise, and it sometimes pays best to advertise in ways which are not too obvious. Consequently, articles appear in newspapers; addresses are made before the Rotary, Lions, Kiwanis and other clubs; illustrated talks are given before Good Government associations, and papers are presented at conventions of professional men in favor of some particular article or process, without actual mention of the item or the company which produces it. It is truly remarkable how far invisible advertising goes.

Municipal cleansing may be raised to the dignity of a branch of sanitary engineering.

It is easy to tell any one who would like to know where Pleasantville is situated. It is not one place but many. There are thousands of villages, towns and cities in the United States afflicted with the conditions here described. The trouble is epidemic—nay, we are suffering from a pandemic of dirt and disorder, the result of inadequate and unsuitable outlets for our wastes.

Almost nowhere in this country can one find a really satisfactory conduct of the work of collecting and disposing of the solid refuse of the houses and streets. What is done constitutes a left-handed effort to get rid of it. Complaints are continually directed against the men and methods employed. No other department of a city receives nearly as many complaints as the one that handles the wastes. No other department is as wasteful. In no other department do politics play so obvious a part. It is not a question of one party or another; it is politics. As Colonel Waring has said, "too often we have a vote instead of a man on the end of the broom."

There are municipal officers who are trying to conduct their city cleansing operations in an efficient manner. There are contractors who take pride in their work. A few American cities are notably clean. They prove that neatness, cleanness and order can be maintained in spite of every obstacle. It has been proved that even dumps can be made sanitary and that the most settled habits of a city full of people can be reformed.

But on the whole the present attempt to keep cities clean is a pitiful makeshift. It is as disgraceful an exhibition of municipal negligence as can be found. City officers seldom know what to do or how to do it. They do not see the whole question of municipal cleansing but only some parts of it. For want of instruction in this subject, the public adds unconsciously but enormously to the burden by scattering bits of refuse and even newspapers about; by sweeping the dirt from houses and shops into the street instead of keeping these wastes under control until they can properly be disposed of and by failing to provide suitable receptacles for their wastes. Nobody likes to live in the midst of disorder, but the littered condition of the streets and country waysides shows that disregard for sanitary order is indeed a general malady.

The Nation's Awkward Efforts Are Costly

The cost is heavy. In their awkward efforts to keep the streets clean and get rid of the garbage, ashes and other solid wastes produced in the manifold activities of municipal life, the people of the United States are probably paying more than $300,000,000 a year.

There are few reliable figures to show exactly how much the cities of this country spend to keep clean. The reports are defective in many particulars. Nor does the official bill, large as it is, represent the whole cost. It does not include the great amount of private scavenging which is done, nor does it take account of the removal of snow or of what is known as trade waste, the refuse produced in the operations of stores, shops and factories.

Some cities do not make any reports whatever. The refuse is usually neither weighed nor measured but only estimated. Generally there is no impartial inspection, check or report on any of the work. There are no standards of cleanness by which to judge or compare the results. There are no standards of labor performance for the men or equipment. It is an open question whether the work of sweeping should be expressed in terms of curb miles or square yards and whether garbage should be measured in tons or cubic yards. Uniform methods of cost accounting have not yet been introduced.

One city, after a political upheaval, confesses in print that it has been employing too many men and that for this and other reasons the cost of its work has been higher per capita than that of other cities of its size. It is going to change all this.

In spite of the fact that New York City had been spending more than $26,000,000 a year on its street cleaning department, the head of the new sanitation commission found that 60 per cent of the cleansing equipment was out of order. He proposed to get new equipment and incur other expenditures, aside from salaries, amounting in all to more than $100,000,000. Within two years of taking office his department was under vigorous criticism by organized groups of citizens, led by the Academy of Medicine.

Complete, Accurate Statistics Are Needed

An attempt which was recently made to arrive at the comparative cost of street cleaning and the collection and disposal of municipal refuse in American cities showed how badly this subject is in need of competent attention. A letter was sent to all cities of 100,000 population or more in the United States. It was politely explained that the latest printed reports of the department addressed were at hand and that all the available figures and especially the statistics which were given relative to cost and the amount of waste handled had already been noted. There were certain facts which were still a little obscure. They were mentioned, and information was requested on these points. The total number of cities written to was eighty-six. Data were obtained from twenty-four.

Consider for a moment the information which came from these cities as a result of this correspondence. Some of the data were for the year 1926 or 1927. There were three cities which supplied information for 1928, six for 1925 and one for 1921.

The total expenditures ranged from $74,712 to $26,858,457. The cost per capita, arrived at by dividing the stated expenditures by the population, ranged from 65 cents to $4.46. These are official figures. Did they represent the same work? They did not.

The total cost did not always include the same items. Only four of the twenty-four cities stated what they paid in salaries and wages, and

but three gave the cost of supplies and equipment. There was little said about cleaning the pavements apart from collecting the house refuse.

As to the amounts of refuse collected, but six could state the number of cubic yards of ashes, garbage and rubbish, considered separately. In four instances the amount of garbage was stated in tons and in fifteen cases in cubic yards. There was no conversion factor given which would make it possible to change tons to cubic yards or vice versa. It is not necessary to carry the analysis further.

In a paper on statistics of garbage collection and grease recovery gathered from ninety-six American cities some years ago for the Government, Prof. Raymond Pearl said, "In a rather considerable number of cases it developed, apparently quite as much to the astonishment of the city officials as to ours, that the city had no record, nor any ready method of finding out, how much garbage was collected in that city in a given interval of time."

There are serious errors in all the statistics of quantities and costs of house refuse in this country which I have seen. They refer only to the quantities collected by the city and do not include the quantities collected by private scavengers or otherwise. They do not give the populations actually served. In many instances the figures do not include the garbage of restaurants and hotels, the ashes of large buildings or any industrial wastes. Our cities are probably paying a good deal more to keep clean than they think but are not keeping clean!

Public Cleansing Calls for Technical Skill

Having now sufficiently investigated the situation in Pleasantville and in the largest and proudest cities of the United States, let us look at other countries and see what the cities of Europe are doing about this question of public cleansing. The situation cannot better be summarized than in the authoritative words of the ministry of health of England and Wales. In the introduction to a report on the municipal cleansing of London are the following words: "Public cleansing has undergone a revolution in recent years and now calls for a high degree of technical skill, if it is to be carried out in an efficient, cleanly and economical manner. There is no service in which it is easier to save or waste money."

It happens that a committee formed by the New York Academy of Medicine and composed of delegates of important civic bodies to aid in bringing about better public cleansing in the metropolis has asked me to look into this question as it exists abroad and make suggestions specifically for New York, based on these observations. I have visited Europe three times on this errand, in 1929, 1930 and 1931. Sixty cities in nineteen countries, with an aggregate population of more than 30 million, were visited in the course of these tours. What I was most interested in was the best practice I could find and not the average practice or the worst practice. My intention, however, was not to let anything escape my notice.

Intelligent persons have not yet given the subject of municipal cleansing the attention it deserves.

The degree of cleanness of the best conducted European cities is far beyond what we are accustomed to in America. The Baltic cities are particularly clean. Germany has some of the cleanest cities in the world. In a ride of two hours through the principal streets of Munich, I was unable to find more litter than would have filled an ordinary coat pocket.

Cooperation Is the Watchword of Clean Cities

A high degree of cleanliness is invariably due to preventive as well as to corrective work. The public is made to cooperate with the cleansing authorities in keeping papers and other refuse off the pavements, in making proper use of standard receptacles and in other respects. The regulations made and the instructions given are enforced by the police. This is not done in an arbitrary manner, but it is done. At the same time, provisions are made by the city to facilitate cooperation. The citizens are told what to do as well as what not to do with their wastes, and it is made easy to comply with these requirements. Suitable receptacles are provided in sufficient number and placed in favorable locations to make it convenient to use them. In most cities the cans for house refuse are brought out from the houses and in some-

instances are washed and scrubbed by the city employees before they are put back. In Italy all putrescible refuse must be kept constantly covered from the time it is produced until final disposition is made.

All this does not work hardship on anybody. It makes for economy as well as for high sanitary standards. It tends to raise municipal cleansing, which in the United States is too often regarded as a humble and despised calling, to the dignity of a definite branch of sanitary engineering.

Courses of instruction in the technical work of city cleansing are now being offered in Birmingham and Berlin. High-grade engineers are being employed to lay out systems, design disposal works and operate them. Appointments to administrative and technical positions are made on the basis of ability and not simply for political or personal reasons.

Europe Considers the Problem Seriously

A great deal of attention is being given to cost accounting. It is recognized that it is necessary not only to provide good equipment but to keep it clean and in good repair. Many cities, as Prague, for example, have excellent machine shops. The best ways of handling the men so that their labor shall be most effective are being studied. Personal accountability is being insisted on. Unusual ability is rewarded. Two summers ago the superintendent of the public cleansing service of the Corporation of London was decorated by the king in recognition of his good work. Similar honors have been bestowed on others.

Conventions of cleansing authorities are being held at which are displayed exhibitions of apparatus. At one of the most recent, held in June, 1930, in Stuttgart, many countries were represented. England sent a score of her foremost authorities. Machines were shown which would sweep the streets and pick up the dirt as they went along. There are five makes of these in Germany alone. There were machines which would wash the pavements and dry them. Systems for the dustless and odorless collection of house refuse were exhibited, as were snow melters, sand sprinklers and many other ingenious pieces of apparatus.

In July, 1931, an international conference on municipal cleansing was held in London under the patronage of the queen and with the cooperation of the British minister of health and many other dignitaries. Nineteen countries were represented, and the attendance was about 700. An international committee was formed to arrange for another congress in 1934.

Everywhere in Europe I have found a general and genuine intention to bring about better methods. The ridiculous old wagons which sometimes require ladders to enable the men to dump the refuse into them are disappearing and, in their place, clean, low-sided, all-metal, covered vehicles are moving rapidly through the streets. The design of these vehicles varies according to the work which they have to do and the topographic character of the streets through which they must pass. It is recognized that not all situations are alike and that a vehicle which is best for one set of conditions may not necessarily be the most suitable for another. Certain requirements, however, are well nigh invariable. All collecting vehicles should be enclosed, made of metal, and kept well painted, clean and in good repair. In Cologne the street cleaning equipment is painted white and kept so. In some cities the vehicles are propelled by electricity, in others by gasoline. If propulsion is by electricity, the current is usually obtained by burning the refuse in well designed incinerators. At Glasgow the vehicles used to collect the refuse and carry it to the incinerator 6 miles away are run by electric current derived from the combustion of the refuse. In Cologne the refuse produces 18 million kilowatts of energy a year.

The Systems of Germany Excel

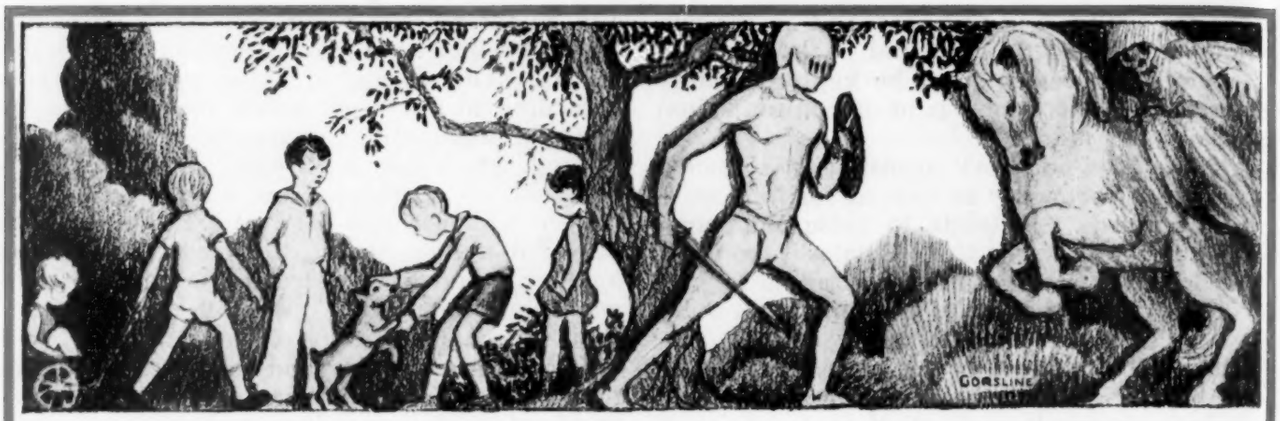
Incineration is in some respects the best method of final disposition, but every plant for the burning of refuse is not a satisfactory incinerator by any means. Some incinerators are an unqualified nuisance. Proper design calls for a high degree of engineering skill and careful consideration of many factors.

The German systems for the collection of garbage, ashes and other refuse without dust or odor are ahead of anything else of their kind. More than 150 cities employ them. They are of two types. In each a standard can with a close-fitting hinged cover is used. In one system the full can is taken away, and a clean one is left in its place; this is the exchange system. In the other system the can is emptied into a closed collecting vehicle in the street by means of a door, called a shutter, which opens when the can is pressed against it and closes when the can is withdrawn. There is a mechanical device which can be used to raise and turn over the can, thus doing away with the labor of emptying it. Most of the vehicles are large, some having a capacity of 19 cubic yards. All are of metal and are motor driven. They can be obtained in various designs.

In England there are many types of refuse-collecting vehicles which reduce fully 80 per cent the dust and odor that ordinarily attach to garbage and ash carts. Some of these vehicles are called "low loaders," the sides being 4½ feet or less above the ground.

It might be supposed that the new methods cost more than the old ones, but this is not always true by any means. Cities save money by getting rid of obsolete equipment which does

(Continued on page 824)



GUARDING AGAINST TUBERCULOSIS

The Ounce of Prevention That Protects the Child

By

J. A. MYERS

A TUBERCULIN test can determine quickly, safely and with reasonable accuracy which children of a community have been infected with tubercle bacilli.

Among the children found to be infected there is considerable health hazard. They will provide many of the cases of their age group in which the adult and fatal type of tuberculosis develops sometime later in life. Although the work among them is highly worth while, they constitute a handicap because of a late start in true preventive work.

The most hopeful group of children is the group that has not yet been infected with tubercle bacilli, and fortunately in many parts of the United States they constitute more than half of the childhood population. Because the public is interested in tuberculosis, is it going to ignore these children and devote all its time and effort to those who have contracted the disease? This would indeed be extremely poor economy. Unless much time and effort are devoted to the children who have not been infected, they will afford a constant stream irrigating the field of tuberculosis. To blight tuberculosis, control this stream. The first step is to prevent the noninfected children from being exposed to tubercle bacilli. If experimental studies have been carefully made so as to reveal unsuspected cases of tuberculosis, and if the cooperation of all patients suffering from tuberculosis in a community has been successfully obtained, the noninfected child will have a far better chance of going through life without becoming infected. One must constantly keep in mind the fact that tuberculosis develops only in the presence of tubercle bacilli. Therefore the best work is to prevent bacilli from reaching the bodies of children.

In addition to this precaution, conditions must be right for the development of the bodies of children who are still healthy. So often in the past, not until the child's body showed evidence of illness was any interest taken in his health. A much easier and more effective procedure is to keep the child well. It is extremely important that foods of the proper kinds and in sufficient amounts are provided for the child. Recently, while I was holding a clinic, a mother brought a little boy of 6 years for examination. When nothing abnormal was found, the mother stated that she wanted me to reprimand her little son because he would not eat. The expression on the boy's face made me feel that it was unfair to listen to only one side of the question. The mother was asked what he refused to eat. She said that he would eat almost any kind of food but would not take enough carrots, spinach and string beans. On being asked whether he cared for meats, she exclaimed "My goodness! That is all he asks for." The boy's face brightened when I stated to the mother that in all probability he was getting too many vegetables and that his body was in need of the protein he would secure from meats. Many a child is poorly nourished simply because some fad is being practiced in his home and he is deprived of certain foods that are absolutely essential for the growth of his body, the repair of tissues and the production of energy.

School feeding has done a great deal of good in many nations, not only by correcting deficiencies in the diets of individual children but also by teaching children and, through them, their families the fundamentals concerning foods, particularly what constitutes the daily food requirements of the body. The nation's greatest hope lies in health education through the schools. In recent times there has been a great deal of study on the composition of the human body and its daily food requirements. This study has been carried on by trained scientists in some of the best laboratories of the world, so that the daily food requirements of the body are quite well understood.

However, the dissemination of knowledge of the food requirements of the human body is receiving little attention. The result is that most persons know little about what their bodies need in the way of food each day. Perhaps the greatest mistake has been in not teaching more health subjects in the schools, but so many of the facts have been established so recently that the blame cannot be placed on those who were responsible for school curriculums a decade or two ago. If, however, no initiative is taken in having introduced into the school curricular courses that will give the girls and boys what they should know about health, the present generation will be justly criticized by those in charge a decade or two in the future.

"Gold Bricks" Sold by Health Faddists

Arithmetic has long been a fundamental in school courses, with the result that a high-pressure gold-brick salesman would have a difficult time convincing eighth grade pupils that $12 \times 12 = 195$. He would also have a difficult time convincing them that "There ain't no apples on that there tree" is good English. The same salesman, however, might tell them that the arches of their feet were made of cement and make them believe it. He might tell them that eating meat jeopardizes their health and convince them to such an extent that they would refuse to eat meat. He could convince them of these false statements simply because they have not been taught about life and health. In other words, they are ignorant of the subjects that take a place second to none in insuring happiness, success and longevity in the world. Because of this ignorance the people of today are easily carried away by health fads.

The only solution, therefore, for malnutrition among children is to teach every one the daily food requirements of the child's body. When this is done, and the fads and faddists no longer have a place in the educational system, the children will be better developed, more healthy and more efficient.

It is important to provide in homes and schools proper atmospheric conditions. Here again the faddists have done much harm. At certain seasons of the year the absences from school that are due to respiratory diseases such as the acute cold, grip or influenza are appalling. The teachings in the schools are in no small way responsible for this. In certain places a child cannot score 100 per cent unless he states that he sleeps with his windows open every night. The parents want their children to be as near 100 per cent as possible. They have great confidence in the teaching pertaining to health in the schools; therefore, they insist that the windows in the child's room are wide open regardless of the outside atmospheric conditions. At certain seasons of the year this procedure jeopardizes the health of the child. Not only are the dusts that contaminate the air harmful to the child, but the breathing of too cold air in the winter is bad. In summer the outside air may be so warm and humid as to be bad for the child's health. Therefore the wide open window prescription is not always good.

Air Conditioning for Homes

The dawn of a new day in construction of homes and schools is here. In the future there will be buildings constructed with immovable windows, perhaps equipped with a type of glass that transmits more of the sun's rays than ordinary window glass. Some have even predicted that many buildings in great cities will be constructed without windows and that they will be provided with lamps that produce rays closely simulating those of the sun. Whether or not there will be windows, there will be less leakage of air with its contamination, wrong temperature and humidity than at present. The air intake to such buildings will be carefully controlled; all foreign material will be filtered out, so that only pure, clean air will be admitted. This air will be automatically brought to the proper temperature, approximately 68 degrees. In winter it will be heated and in summer cooled to that temperature. The humidity will be between 40 and 50 per cent. In summer the air will be dried and in winter moistened to that degree of humidity. The air will be kept circulating but not too fast. When all this has been done, the connotation of the term "fresh air" will be changed.

Fresh milk is not regarded as wholesome and pure, for it is realized that it may be contaminated with the germs of typhoid, diphtheria and tuberculosis during the process of milking and that it is sometimes obtained from diseased cows. Therefore pasteurization is used to make it safe.

At one time sparkling water in a brook or the cool water from a well was considered fresh. Today the possibility is considered that somewhere upstream or somewhere in the vein that feeds the well the water may have been contaminated with the germs of disease. Therefore the great cities are protected from such diseases as

typhoid by filtration and chlorination of the water, after which it is deemed pure and safe water to drink. This pure water is cooled so as to make it pleasant to drink.

The same considerations apply to the air we breathe. Outdoors it becomes contaminated; its temperature and humidity rarely are ideal. Therefore, in the new construction of buildings in which people live and work, the air must be changed so that it is pure and safe to breathe. The prediction is not that some new architecture will be developed to bring about atmospheric conditions approaching the ideal—this has already come to pass—but that this new architecture will come into general use in the near future. With it will come the abolishment of the outdoor sleeping porch and the open window, and with it will come relief from much suffering from hay fever, certain forms of asthma, the acute cold and pneumonia; and children will have a better opportunity to escape tuberculosis.

The Importance of Energy

Energy is extremely important in the life and health of a child. Careful attention should be given not only to its production through the proper foods but also to the regulation of its expenditure. In the schools, great stress is laid on exercise for the child. Numerous gymnasiums have been constructed, magnificently equipped, and provided with instructors; but what has been done about the conservation of the energy of the children? That chronic fatigue has become almost a disease entity among school children is well recognized. Those who desire more information on this subject will profit by reading "The Tired Child" by Seham. Perhaps there is no one change that could be brought about in the school system that would do more to insure the good health of the girls and boys than the establishment of a definite rest period of approximately an hour sometime during the day or at least a few times each week. There are those who object to this idea on the ground that there is not enough time in the day, but time has been found for the expenditure of energy. Fortunately the subject of regulation of energy expenditure is becoming more popular than it was a few years ago. It is being carried into the homes where it is much needed for the girls and boys, particularly of high school age. Loss of sleep and unnecessary energy expenditure in this age period together with failure to take food for repair, growth and production of energy in the proper amount is accountable, perhaps more than anything else except direct exposure to tubercle bacilli, for the high incidence of tuberculous disease among the girls and boys of the teen age. With the numerous social demands on children, the keen competition which they meet when they leave school and the misleading teachings of the faddists, the time has arrived when the emphasis must be transferred from that which results in unnecessary and useless energy expenditure to that which conserves energy, thus allowing the girls and boys of this country to develop energy reserve. Proper foods in sufficient amounts, the right atmospheric conditions and the regulation of energy expenditure will aid tremendously in keeping the noninfected girls and boys in good health.

Numerous attempts have been made to prevent tuberculosis by immunizing animals. Dead tubercle bacilli, the products of growth of tubercle bacilli and even living tubercle bacilli have been used, but as yet the investigators in this field have fallen far short of their goal. A further step has been taken by Calmette, who is using the vaccine B C G in human beings. Perhaps there is nothing in the field of tuberculosis that has been talked about more in the last five years than this vaccine. The children to whom it is administered are those who are liable to be extensively exposed to tuberculosis, particularly the infants from families in which there is unmistakable tuberculosis. The method consists of introducing into the bodies either by mouth or subcutaneously, preferably the latter, living tubercle bacilli. The original strain of tubercle bacilli which Calmette used was of the bovine type. It was capable of producing disease in cattle, but over a long period of time he grew this strain artificially so that it finally reached the stage at which he holds that it will no longer produce destructive disease but, when introduced into the bodies of infants or children who have not previously been infected, will produce a partial immunity. Calmette has felt that it is particularly valuable among infants who are subjected to great exposure. By its use he feels that he has been able to reduce the mortality among such infants tremendously.

Weighing the Pros and Cons

The question that at once arises is, why has it not been universally adopted throughout the world? Some objections have been raised which are making many workers conservative as far as such a vaccine is concerned. The first is that one introduces living tubercle bacilli. It is true that they have been attenuated in virulence, but what may happen to them after their environment is changed from the test tube to the human body? After living in the body for months or years will they regain their virulence and become a menace even to the point of producing fatal disease? The second objection is that the immunity produced by infection with tubercle bacilli in childhood is not a complete immunity. It has been shown that no person develops the chronic adult type of tuberculosis without having had some so-called immunity established by previous infection. In other words, the previous infection sets the stage.

This is of great significance. Therefore it seems far wiser from the standpoint of remote outlook to prevent the stage from being set by protecting children from exposure to tubercle bacilli rather than to set the stage and let the exposure continue. Further study is being made. The League of Nations Health Committee has been instrumental in having three commissions appointed to study the effects of Calmette's vaccine.

One of these health commissions consists of clinicians, one of bacteriologists and one of veterinarians. Already these commissions have reported that some immunity is established by the use of Calmette's vaccine, but the remote effects and results can be determined only through careful observation over a long period of years of as many as possible of the 200,000 infants so treated in Europe.

There is nothing of a specific nature that has been universally accepted in the prevention of tuberculosis among the noninfected infants and children of any community, but with the knowledge at hand the problem is clear. It is purely a matter of preventing exposure to tuberculosis and keeping the noninfected children in a splendid state of health. By this means the volume of the stream that irrigates the field of the adult and fatal type of tuberculosis in this country will be greatly reduced.

Brief Healthgrams from Articles in This Issue

¶Citrus fruits came first from China and other parts of Asia and a long time ago were introduced into the country near the Mediterranean Sea and then into the western hemisphere.
See page 794

¶During the Great War the well cultivated fields in the north of France were found to teem with the bacillus of tetanus, whose ravages among the wounded would have been appallingly heavy but for the timely use of that antitoxin which was available, thanks to the researches of Baron Shibasaburo Kitasato many years earlier. *See page 798*

¶Many times it is the little things that count. This is particularly true in crime investigation. A single hair, a few fibrous threads, so easy to overlook, have actually determined the guilty person. *See page 832*

¶Since no two fertilized egg cells, even from the same parents, except perhaps in the case of identical twins, are ever precisely alike at the start, and no two developing human beings are ever exposed to precisely the same series of environmental influences, each human being is a unique individual, differing somewhat from any other living person. *See page 789*

¶"The degree of cleanness of the best conducted European cities is far beyond what we are accustomed to in America. The Baltic cities are particularly clean. Germany has some of the cleanest cities in the world. In a ride of two hours through the principal streets of Munich, I was unable to find more litter than would have filled an ordinary coat pocket."
See page 813

¶"Young children particularly respond almost instantly to sweet, quiet, low tones. Unfortunately, most persons when irritated allow their tones to become shrill, high and fault-finding. If a child never heard this kind of a voice, he would never develop one, providing, of course, he was not influenced by physical defects."
See page 830

¶"The complete physical examination of the child is a necessary step in preventive medicine; it is locking the garage before the automobile is stolen." *See page 825*

¶"The earlier age at which girls reach adolescence is well known, but this is only the final and most striking stage in a process that has been going on since birth. Girls grow faster than boys and stop earlier. Therefore in each year of childhood they have traveled farther toward their ultimate goal and are more mature than boys of the same age." *See page 822*

¶All children present behavior problems, and any parent who pretends to himself or to others that his child is an exception is either remarkably unobservant or not quite truthful.
See page 809

¶On one occasion, Lincoln read a humorous story to members of his cabinet. Only he laughed. Finally he exclaimed: "Gentlemen, why don't you laugh? With the fearful strain that is upon me night and day, if I did not laugh, I should die, and you need this medicine as much as I do!" Then, with a sigh, he pulled a paper out of his deep hat and read to the astonished members the first draft of the Emancipation Proclamation! *See page 804*

H. Armstrong Roberts

Boys *and* Girls

IF YOU could look at a group of men and women, and shut one eye to differences in clothes, hair-cut and muscle, what distinguishing qualities would you see? On what characteristics of skeletal structure would you assign persons to the male or the female sex? To all of us, the men would seem taller, with wider shoulders, narrower hips, heavier bones and larger heads and faces. Into the judgment of the anatomist or the anthropologist would enter finer differences in build, such as the relatively longer legs of the men and the relatively longer trunks of the women. Becoming more academic, the scientist might even insist on rounder heads and broader, shorter, more childlike faces in his female selection.

Within all groups made up of a single race these differences in height, shoulder and hip breadth, in relative length of trunk and legs and in development of the head and face separate men from women. Are the differences equally characteristic of boys and girls before the age of adolescence? Some are, and some are not.

In actual size, whether it is the total height and weight, or the breadth or length of any segment of the body, boys and girls at the preschool and early school age are almost equal. The traits in which the boys tend to be the larger are few, and the amount of difference is small. Height and the length of the hand are two dimensions that on the average are slightly greater for little boys than for their sisters at the same age, but the boys are less than one third of an inch taller and their hands are less than one thirtieth of an inch longer.

From 2 to 8 years and even through the preadolescent ages of 13 and 14, the average breadth of the shoulders of boys and girls is the same, as are also the width of the hips and the length of the arms, legs and trunk. The reason for this lies in the different way in which boys and girls grow. The earlier age at which girls reach adolescence is well known, but this is only the final and most striking stage in a process that has been going on since birth. Girls grow faster than boys and stop earlier. Therefore, in each year of childhood they have traveled farther toward their ultimate goal and are more mature physically than are boys of the same age.

In just those bodily proportions that set off the man from the woman, the little girl will show the more mature build. Apes and babies have relatively long trunks and short legs; adult men and women have relatively short trunks and long legs, the women showing the more childlike proportion. But between 2 and 8 years of age, it is the girl, not the boy, who has the more grown-up build. The same process of growth marks the length of arms and legs, the short bent legs of the baby stretching and growing until they predominate over the arms that waved so comparatively long and free at birth. Again, the little girl shows her earlier maturity at every year before 13 or 14, when her adult leg length has usually been reached. During childhood, girls also have forearms longer in relation to their hands than they had in infancy or than those of boys of the same age.

By
RUTH
SAWTELL
WALLIS

Are Girls Different

H. Armstrong Roberts

Among all races there is a small but constant difference in the head form of men and women. Women's heads are always somewhat rounder than the heads of men of the same race, but infants and children show the opposite condition. All children have rounder heads at birth than they will have at maturity, but in this trait, too, the little girl is for a long time in advance of the boy. The length of her head at each year has completed more of its final growth than has the head of a boy with the same head breadth.

Although through a large part of his childhood the boy is equaled by the girl in size and surpassed in maturity of form, there are still one or two spots in which his final adult superiority is established at birth. Boy babies always have larger heads, faces and jaws than have girls. Growth in this part of the body is going on at a different rate and in a different fashion than in the trunk and limbs. Children of 2 years have trunks, arms and legs only 50 or 60 per cent as long as they will be at 20, but the length and breadth of their heads have already accomplished 90 per cent of their total growth. At birth, then, the head and face have reached the stage of growth that the trunk and limbs attain after adolescence. Only small gains are made each year in head growth, and boys show their adult predominance over girls.

In other parts of the body early appearance of adult masculinity also happens for the same reason. The length of the bones of arms and legs of boys and girls is equal during the years of their greatest growth, but the breadth of the boys' bones is always greater. The breadth of the bone shafts, like the diameters of the head and the face, has made its greatest spurt before the end of the first year of life and thereafter adds only a small annual amount. So from the earliest possible measurements the bones of the boys' arms and legs are sturdier, more robust than the equally long bones of girls at the same age, just as the skeleton of the grown man is heavier than that of the mature woman of the same race.

The bones of boys and girls differ most widely, however, not in the final product but in the way in which certain portions make their first appearance. At birth the shafts of all the bones of arms and legs, of hands and feet and of fingers and toes are well developed, but between these lie wide spaces filled with cartilage. Between the ages of 3 months and 10 years this cartilage will ossify; that is, it will become bone. The wrist and ankle will add seven or eight separate bones apiece, and at the end of the shafts already present there will be added ends called epiphyses. It is in the earlier beginning and more rapid spread of the change from cartilage to bone that girls show their priority. Each bone for wrist or ankle is ossifying in all girls of a group 2 years younger than the boys' age

group in which it is 100 per cent present. The girls' epiphyses come earlier and are larger at each age than are those of the boys. Certain irregularities that arise frequently in the process of ossification are twice as numerous in the boys' hands and feet, and it is male babies who suffer most often and most severely from tetany, rickets and all diseases affecting bone growth.

The appearance of the teeth of boys and girls shows a sex difference less consistent than does the changing of cartilage into bone. The first tooth of boys and girls usually arrives between the ages of 3 and 16 months, with 7½ months as an average age for both sexes. It is not until the permanent set of teeth begins to cut its way through the jaw that the girls' earlier maturity is evident. Each permanent tooth, just as each bone for wrist and ankle, appears later in the boys than in the girls, and teeth that are visible in the mouths of all 8 year old girls are not present in all boys until the age of 10.

The number of permanent teeth, the amount of cartilage changing into bone, the proportions of leg length to trunk length and of arm length to leg length mark the earlier maturity of little girls from 2 to 10 years as clearly as will the arrival of adolescence at 13 or 14 years. In all these traits, boys lag one or two years behind; they grow more slowly, but they will grow for a longer time, and finally they will reach, both in actual size and in body build, the type that is farthest away from the baby.

Do We Want Clean Cities?

Continued from page 817

only a part of the work required and calls for heavy expenditures for upkeep and by putting in what is more efficient and durable; improved organization and management introduce better coordination among the men; proper cost accounting makes it possible to see how economies can be brought about. System and order are as helpful in municipal cleansing as they are anywhere.

What is the reason for the present unsatisfactory state of municipal cleansing in America? Why are our cities so backward?

The answer is that intelligent persons have not yet given this subject the attention that it deserves. In fact, they have rarely given it any attention. They have been content to grumble, freely admitting the justice of criticisms and yet unwilling to do anything to improve matters. Thousands of men and women who show intelligence and care about most things are unaccountably indifferent about the cleanness of their cities. They are scrupulously neat about their persons and homes. Their business offices and shops are models of cleanness and order. But when it comes to their streets, other standards prevail. They leave that to the city administration.

For some years a favorite activity for American cities has been the conduct of "clean-up days" or "clean-up weeks." These usually take place in the spring. They are, as a rule, organized and led by the city health department or street cleaning bureau and are participated in by public school children, civic bodies, associations of social workers and similar groups. The papers lend cooperation by giving prominent space in their news and editorial columns. Every form of publicity is employed to make the clean-up as complete as possible. Residents are urged to clean house and put their yards in order and to bring out for removal by the city all their useless articles and refuse. Prizes are offered for the best work done in any neighborhood. These campaigns are all very well in their way. To be clean once a year is better than to be always dirty.

But an annual cleaning up is an entirely different matter from keeping a city clean. A really clean city is always clean. Its condition is due to continuous efforts on the part of the authorities and the public. It invariably means that there is somebody at the head of the work who thoroughly understands it. Competent leadership is indispensable. With it and with proper backing by the mayor and city council, every problem can be met.

With patient perseverance the public can be taught to cooperate in the work; proper ordinances can be passed and enforced; proper equipment can be had; the morale of the force can be maintained at a satisfactory level. If the city administration is indifferent or incompetent, the condition of the streets will bear eloquent testimony to the fact, in spite of everything that the citizens may do through their civic bodies or otherwise.

Physical Examinations for the Healthy Child

By
Esther I. McEachen

OLIVER WENDELL HOLMES once dryly asserted that training (and certainly the doctor meant training for good health) should begin with the grandfather. Health officials have urged prenatal care. Thus in the past seventy years the complete physical examination has developed to a point at which it now influences even the unborn child. The medical care of the child of today is a greater task than at any other period in history. The dangers of infectious and contagious disease have increased with the tendency of peoples to centralize in cities and towns, with the establishment of amusement centers and with the development of modern means of travel. Preparation of meals has become more complex as foods have been studied and calories and vitamins have come into a place of prominence. Often the parent feels the need of advice, and in recent years the medical profession has tried to cooperate by urging early complete physical examination of each child.

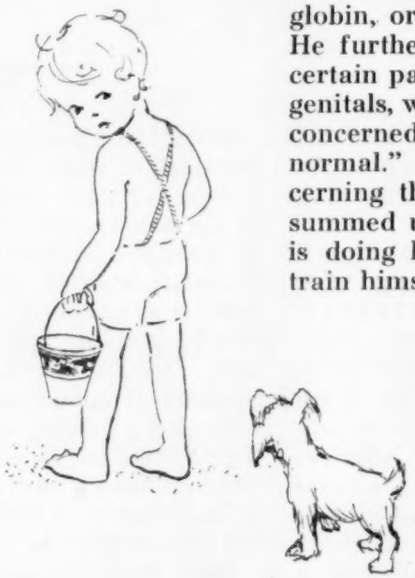
The term complete physical examination will be used throughout this article to designate the examination made on the patient who comes in without a complaint but who desires a check-up or a periodic or thorough examination. This searching of the apparently well body to detect any early evidence of disease is one of the more recent activities of organized medicine. It is also an expression of the public's voluntary effort to cooperate with the medical profession in supplanting the old method of treating disease with the newer system of preventive medicine.

Dobell first expressed the idea of the complete physical examination in England in 1861, but it was not until 1900 that it was recommended to the American Medical Association by George M. Gould. Examinations made for applicants of insurance companies, for employees of large industrial concerns and for the soldiers in the World War brought the thought to public attention. The House of Delegates of the American Medical Association in June, 1922, gave the movement official approval when it authorized the Council on Health and Public Instruction to prepare forms suitable for use by practitioners in medicine in making periodic complete physical examinations.

One authority says that the periodic health examination of apparently healthy persons is designed to detect the early evidences of disorder before discomfort, inconvenience, interference with work or anxiety has driven the candidate for examination to seek medical advice for the treatment of established disease. Another authority states that the examination of the child has a double purpose; it recognizes incipient physical defects of disease and is a method of weighing and measuring the development of the child. To this he adds that the physical examination should extend beyond the physical side and include the questions of mental development in its broadest aspect, for it is realized that mental growth during these years is of tremendous import. Furthermore, the habits and behavior problems of the preschool child are intimately related to and connected with the physical problems.

The physical examinations made in connection with fairs and schools soon called at-

tention to the fact that to be of real value the complete examinations must begin early in life. School examinations showed that children entering the first and second grades have more defects than any other group. For this reason, students of the problem have been led to careful consideration of Cardinal Newman's statement, "Give me a child until he is 7 years old, and I care not who has him afterward," and have turned more of their attention to the health problems of the children of these years. Baby stations have been established in the cities, and more extensive work has been attempted at fairs, schools and other points of opportunity. Medical authorities have recognized thumb sucking, dirt eating, nail biting, adenoids, large tonsils, rickets, orthopedic deformities, malnutrition, decayed teeth, malposed teeth, bed wetting and many other abnormal conditions met with later in life as problems dating back to the early childhood; yet so little attention has been given by the parent or the physician to the child in these years that it has been termed the careless age.



The careful physical examination is of greater importance in diagnosis of diseases of children than in adults because children do not complain and they can tell so little about their symptoms that the observation of facial expressions, condition of the eyes, movements of the limbs and other evidence of impairment of function or of distress must be relied on in drawing the conclusions. To the rural physician, who must depend less on the laboratory, the history and these physical observations are of even greater value. One noted physician says the child should be approached as though he were the doctor's own child, so that a feeling of confidence, rather than of fear or restraint, may be established. Emphasizing the need of undressing the patient, he states that frequently something will be found in some unexpected locality which will throw light on the diagnosis. More mistakes are made by not seeing than by not knowing. On the first page of his textbook, "Pediatrics for the General Practitioner," the late Dr. McClanahan says that more mistakes come from failure to investigate a case thoroughly than from actual want of medical knowledge. All authorities agree that the examination should be accurate, thorough and all-inclusive, and that the physician should give himself the best chance by demanding that the child is completely undressed.

Urging that the examination should be complete, one medical writer humorously covers the subject with the following questions: "Do we examine the child or give him the once over? Do we remember the child has height, weight, a build, speech, mentality and facial expression, that he has a head, eyes, ears, nose, mouth, teeth, throat, neck, back as well as a front to his chest, an abdomen with liver border and perhaps a palpable spleen, that he has genitals, a spinal column, hands, legs, ankles and feet? Do we find that urine, stools and perhaps hemoglobin, or the iron in the blood, are normal?" He further more specifically calls attention to certain parts of the body usually neglected, the genitals, when he says, "Parents are particularly concerned as to whether or not the genitals are normal." The opinion of all the authorities concerning the examination of the ears has been summed up in the statement that no physician is doing his duty to his patient who does not train himself to look at the ears and then make use of his training. Most physicians believe that examination of the eyes cannot be made satisfactorily in the preschool child except by a trained ophthalmologist, and although it has been estimated that 85 per cent of children of preschool age have good vision, the presence of crossed eyes or other defects should be recorded. All through the examination, the obedience, nervous reactions and intelligence of the child, and the attitude of the parent should be noted. A psychiatrist maintains that each person should be studied to see whether he is forming habits of mind or developing traits of character which may later become true psychiatric reactions.

The object of the examination is to prevent and correct defects of children and to teach parents that modern medicine can improve the physical condition of the apparently healthy child. The best time of the year for such work is in the spring or early summer. Freedom from school work and long days of sunshine in spring, summer and early fall (ideal times for strengthening the human body) can then be utilized to the utmost. A physician should be chosen because of his training and ability to do this work, an appointment should be made for a time when he is not rushed with other work and when the child, the mother and the physician are not overtired, excited or anx-

ious. It is the physician's opportunity to call attention calmly and deliberately to the benefits of vaccine for smallpox and innoculations against diphtheria and to ascertain and to discuss with the parent any peculiarities of the individual patient. It is the parent's chance to become better equipped to look after his own child's welfare. At the conclusion of a complete physical examination, a simple, precise, nontechnically worded health prescription should be written. This should include an outline of the daily routine, demand proper eating habits and regular elimination, provide for regular hours of sleep, instruct the parent in regard to care of the body, posture, bathing, fresh air and exercise, and give reasonable balance between work and rest and play so that as far as possible the causes of nervous excitement are eliminated.

The complete physical examination of the child is a necessary step in preventive medicine; it is locking the garage before the automobile is stolen. Its aim is not only to prolong life but to preserve health, happiness and usefulness. To be of greatest value it must be begun early in life and conducted regularly at least once a year depending on the condition of the individual child.

The following queries and answers, the result of a recent question box, may throw light on some of the questions parents frequently ask physicians in regard to the periodic health examination of the child.

1. *How does the free preschool clinic examination compare with that made by the physician?*

ANSWER: The free preschool clinic is usually crowded. One child may expose a large group to some infectious or contagious disease. The child is often tired and excited before he can be cared for. The physicians must examine the patients too rapidly to be really satisfied themselves with their work. Too large a portion of the examination is made by assistants, so that the physician cannot study the child, as a human being, or the child-parent relationship. If there is any follow-up examination, it is seldom made by the same physician; therefore, changes that have taken place between examinations cannot be evaluated. Free preschool clinics are established to meet the need of many children who because of the expense could not otherwise be examined. These clinics have done much to call the parents' and physicians' attention to the values of such studies of the child, and certainly such an examination is much better than no examination.

2. *If a child develops a trait of laziness a few months after a complete physical examination has been made, would you advise repeating the examination?*

ANSWER: I should advise repeating the examination at any time that the parent has any cause for anxiety about the child. One peculiarity of medical work with children is that the patient becomes sick suddenly and makes marked improvement just as quickly. The child's rate of growth is rapid, and the condition found at the time of the examination may not be the same as that a few months later. Laziness may be due to rapid growth, poor nutrition, faulty digestion, insufficient elimination, poor eyesight, poor hearing, adenoids, too much activity or any of many other conditions. *The healthy child is always active.* Physicians depend on other physicians to care for their families because they feel that some one who is not with the patient daily but is seeing him from time to time can observe defects or changes in the physical condition more accurately. For the same reason and because he is trained in this work the physician is in a better position to sum up the situation than is the parent.

3. *Do you advise vaccination for smallpox and innoculation for diphtheria for all children?*

ANSWER: I certainly advise smallpox vaccination and diphtheria innoculations for all children. It is hardly necessary to say to the adult of today that vaccination for smallpox and antitoxin for diphtheria have not only greatly reduced the frequency and the severity of these diseases but have reduced the death rates and undesirable after-effects which formerly almost terrorized people. The danger associated with developing immunity to either smallpox or diphtheria is practically negligible while the danger of even small groups of nonimmunized persons is that of exposing all to the disease. If no scar forms after vaccination, the patient is said to have a no-take vaccination. This indicates the absence of immunity; therefore, vaccination should be repeated at once. In many persons who have had several no-take vaccinations, smallpox has later developed.

With diphtheria a large percentage of adults are immune, but practically all children under 6 years old are susceptible. The question of determining who is and who is not susceptible is now a simple matter. For the susceptible patient, toxin-antitoxin or toxoid may be used to develop immunity. With toxoid the danger of producing anaphylactic shock or serum sickness on the administration of another serum is avoided. If all children were given the toxoid treatment for diphtheria, a doctor would seldom need to administer antitoxin for the treatment of the active case, and he would much less fre-

quently be called on to treat either anaphylactic shock or serum sickness. In its bulletin of October, 1931, a prominent life insurance company published the following statistical data: "The drop in the diphtheria death rate to a new minimum of 3.9 per 100,000 is another outstanding public health fact of 1931. This represents a decline of 34 per cent in a single year in the mortality from this former leader among the scourges of childhood. The diphtheria death rate is now about ⅖ of that recorded only 5 years ago, ⅙ of the figure registered 10 years ago and ⅐ of the rate in 1911. The fight against diphtheria has been definitely won." When the insurance companies can make such reports, the medical profession should not need to urge diphtheria immunization.

4. *Are there other diseases from which the child can be protected?*

ANSWER: With whooping cough and scarlet fever, immunization is still not altogether satisfactory. In either disease effective prevention can be produced in a certain small percentage of cases but at the present time not in a sufficiently large number to be satisfactory to either the physician or the parent. In the treatment of whooping cough, vaccine may shorten the course of the symptoms and reduce the complications. In a child less than 1 year old, whooping cough is serious because it frequently ends in a pneumonia. Twenty-five out of every hundred of these patients die. For these the vaccine early is the best that medicine can offer; for the older child, because the vaccine is expensive and not entirely satisfactory and the dangers are not so great, the physician should use his judgment as to whether it should be administered.

In mild scarlet fever, properly cared for, the symptoms are not troublesome and there are no complications, but no physician can say at the onset whether a case will be mild or severe. For severe cases, scarlet fever antitoxin early reduces the severity of the symptoms and the complications. There is danger, however, of the patient having been previously treated with serum and therefore developing a serum reaction. Often this is mild and, although the patient is uncomfortable for a few days with hives, the latter condition can be treated so that it is not very objectionable. Occasionally the reaction is severe, and for this reason the serum must be given cautiously by a physician who anticipates this possibility and is prepared to treat it. One student of this problem, speaking before a gathering of pediatricians recently, said that the incidence of kidney complications following scarlet fever in a certain group of studied cases had been reduced from 12 per cent in those treated without antitoxin to 1 per cent in cases treated with the antitoxin. Such reports make physicians look to the use of antitoxin as a part of the treatment of scarlet fever and hope that the near future will offer a refined product so that its benefits can be obtained without its objectionable features.

With measles, whole blood from a parent who has had measles, injected into the muscles of the child at the time of exposure, may give a temporary immunity so that measles does not develop at that time; or if the injection is given soon after the rash has appeared, it modifies the symptoms and reduces complications. In institutions for young children, subnormal children or those suffering from other disease, this protection is certainly advisable.

Another disease to which the child may be immunized is typhoid. This, however, is not necessary unless the child is liable to be drinking impure water or is going on a trip during which he may go into an old swimming hole or otherwise may be exposed to typhoid.

The time for the parent to consider the immunization of the child is before he is exposed to or has contracted one of these diseases. No time could be more opportune for the parent and the physician to discuss these problems than at the close of the complete physical examination.

5. *Should the complete physical examination be conducted in the home or in the office? Do physicians prefer to have the parents present when the examination is made?*

ANSWER: Physicians usually prefer to do as much work as possible in the office because the equipment is not easily moved from place to place. Naturally the best work can be done in the workshop of that worker. As a rule, the parent should be present to aid the child in undressing and dressing, to answer or to affirm the child's answers to the doctor's questions and to permit the physician to judge the child-parent relationship and the home environment. In certain cases in older children, involving problems such as stealing, lying or other abnormal adjustments, the physician may be able to accomplish more if he has the child alone for part of the time. Obviously, in giving the final instructions it is often wise for the physician and parent to discuss some phases of the health prescription when the child is absent. This may be done at a later appointment when the doctor has had time to do the laboratory work, to summarize the physical observations and to prepare the health prescription carefully.

6. *Is the average normal weight and height chart a good guide for determining the physical well being of the child?*

ANSWER: A weight and height chart which gives a maximum and a minimum weight and height for each sex and each age is a good guide for the physical well being of a child. This does not mean that in order to be in good condition a child must have a weight and height within the range of figures given on the chart. A child inherits a certain stature; hence at a

given age one child may be tall, slender and thin, another short, stout and heavy, a third fine boned, short and light, and a fourth may develop early. Obviously all the weights and heights may not be in the range of figures given on the chart, but when other factors are considered they may be within the normal for that individual.

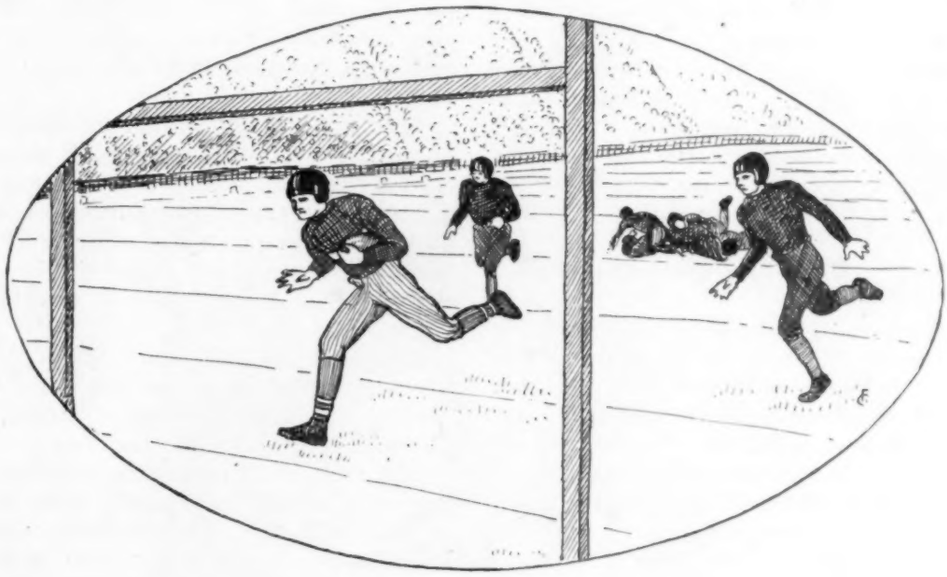
These charts are an aid in determining the degree of abnormality in either oversecretion or undersecretion of certain glands, known to be responsible for dwarfs and giants, and in determining the degree of undernourishment and the effectiveness of certain measures in overcoming these difficulties. The weight and height chart should never be considered alone but should be used as one of the scales in making the summary.

7. *What are some of the specific abnormalities found by the physician making the complete examination of the apparently healthy child?*

ANSWER: Among the more common defects not previously noted by the parents are malnutrition; curvature of the spine and faulty posture; knock knee, flatfoot and other orthopedic deformities; misplaced, underdeveloped or malposed teeth; rickets, especially the milder types; speech defects; adenoids, nervous manifestations; anemias; disturbance of glandular function; diabetes; phimosis or need for circumcision; some of the various forms of heart and lung disease, and umbilical and less frequently inguinal hernia or rupture. The object of the complete physical examination, however, is not only to find and correct abnormalities but to give the physician a knowledge of the individual child so that he will be better qualified to care for him in sickness and to help with regulating feeding, establishing regular rest periods, reducing causes of nervousness and aiding the parent in his task of rearing a happy, healthy and useful citizen.

Hygeia Makes Another Touchdown!

In the October Issue Valuable Points Will Be Scored by



Alfred E. Parker's timely suggestions for minimizing the number of "Deaths by Football."

Dr. John Ruhräh, who gives a history and description of the Georgia Warm Springs Foundation in his article "Paral."

"Evaporated Milk," the story of the birth and growth of an industry, written by ***Frank E. Rice*** and ***Charles Dillon.***

Dr. M. C. Overton's pertinent points on "The Teething Age."

"Goranteed," another of ***Lucretia Penny's*** delightful stories.

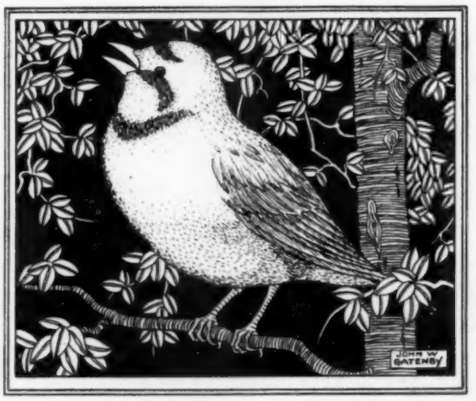
J. Clarence Funk, who asks the thought-provoking question, "Is Your Leisure a Menace or a Help?"

Dorothy Cannon's helpful hints on "Children's Play."

For the littlest ones, ***Vivian Koski Cook's*** story of Viscount Vitamin, Lady Lettuce and other members of the health family.

And many other informative articles by *Hygeia* contributors, old and new.

Give Your Child an Attractive Speaking Voice



TEN YEAR OLD Sally was on her way to dancing class. Her eyes were bright, her dress was smart, and her hair, though naturally dull and stringy, lay in shining waves close to her head. Her movements were graceful, and her smile as she spoke was attractive. Yet she impressed me as being a singularly disagreeable child. I wondered why. Then I realized the cause. It was her voice, of course.

Carefully chosen diet had developed her body properly; a dancing teacher was teaching her to use it gracefully. Her mother dressed her carefully; a wave for her hair and colors to bring out the clear olive of her skin. Mistakes in English were corrected diligently; she studied French and music. Everything was done to assure her growing up into a charming, cultured young lady.

Not everything! Nobody did anything about her voice.

Sally, like too many children, talked in a high-pitched nasal tone. It made her sound nervous and irritable. When she spoke, this pleasant well mannered child was transformed into a discontented and disagreeable one.

It was indeed a case of silence being golden.

Grown up, she will still use this high, twanging voice. Good speech cannot be put on with adult clothes. The uncorrected bad habits of the child make the disagreeable, irritating voice of the adult.

Good manners in speech are as easy to acquire as good table manners and like them should be taught in childhood. With a little care and the application of a few principles, parents can obtain far better results than a teacher can possibly accomplish at a later date.

Where is the beginning?

First, an ideal must be established. Know what constitutes a beautiful mode of speaking; learn to distinguish good sounds in speech from bad sounds, and accustom the children to hearing good speaking voices. Know the kind of voice that is desirable.

To know what to avoid is easier. One has only to listen to the voices of the crowd—tense, throaty, brittle and shrill. There is the patronizing voice and the servile one; the eager, aggressive voice and the timid one, and the forced friendly tone. The trouble in most cases is that the individual allows his feelings to control his voice, and then his voice in turn influences his feelings. If he speaks angrily, he becomes more angry. A pleasant, controlled voice, on the other hand, induces in the one who uses it as well as in the one who hears it a sense of calm and well being.

Listening to a friend over the telephone, too many times one can tell whether the talker is tired or nervous, excited or bored, happy or distressed. Unconsciously a listener reacts to what the voice tells him. Listen to the voice of a man who inspires confidence; note the response in his listeners. Which one of your neighbors has a restful voice? Is it not the one with the pleasantly modulated, low-pitched voice?

This quality of control or modulation is the chief attribute of a beautiful mode of speech. Add to it a natural, easy utterance, clear and distinct, carrying full expression, a wide range of sound and beauty of tone, and the result is the perfect speaking voice.

How should one begin to develop the child's voice?

The first essentials for the cultivation of a pleasing speaking voice are good teeth, a non-constricted, clear and open throat, and a nasal passage free from obstructions.

The posture also must be good and the breathing correct. If the child's voice is thin, feeble or shrill, watch his breathing. Teach him to breathe deeply; that is, from the bottom of the chest instead of from the top. When one goes to have one's voice tested for the radio, the first command is to "take a deep breath." One well known director goes so far as to say that he can tell whether a woman's voice will reproduce well the minute he sees her breathe.

Deep breathing has to be acquired by practice. The diaphragm—that muscle between the chest and the abdomen—is naturally lazy, but it can be taught to work. Have the child stand in a well poised position with feet apart, toes straight

ahead and weight well distributed. If the hips are straight and the chest is high and the chin lifted, the shoulders will take care of themselves. While the pupil is in this position, tell him to fill his lungs and before expiration to make a slow, mental count of five, exhaling sometimes explosively and sometimes slowly and steadily. If this is done regularly for five minutes each day, the lungs will dilate and gradually the count may be increased to ten or fifteen.

Resonance and carrying power cannot be assured without proper breath control. The singer demonstrates this principle. If the child breathes deeply his tone will be rounded, full and sustained; it will never be nasal or too high or too low.

He must learn, in addition, to articulate well and pronounce correctly. The vowel sounds are the most difficult because they are the open-mouthed sounds. They should be made with an open throat, mouth, teeth and lips.

Not until the American tries to learn a foreign language—French, for instance—does he realize how little he has been using his tongue and lips. Watch any foreigner and observe how he works his whole face when he talks. Americans, as a rule, depend too much on the throat.

The vowel sounds given for practice by the director of speech improvement of the New York board of education are *ah, a, ee, aw, oh, oo.*

Ah should be produced with the mouth open wide and the tongue flattened, with the tip against the lower teeth. Keep the tone forward out of the throat and down out of the nose. The following practice words are suggested: father, papa, car, harm, snarl.

A must be a pure tone, not *ayee*. The tip of the tongue should touch the lower teeth, with the remainder slightly arched above their level. Practice words: ate, ache, bait, blame, game, make, baby.

Ee is pronounced with a tongue position similar to that for producing *A*. The upper and lower teeth must not meet, and the sound must not be made too thinly. Practice words: fee, feet, need, reel, seem, free.

Aw should be spoken with lips extended, mouth open and tongue convex. Practice words: jaw, saw, awning, lawn, yawn.

Oh is pronounced with the lips partly open and forward and the tongue forward and concave. Practice words: go, low, dough, foe.

Oo should be sounded with the lips rounded and pursed and the tongue position similar to that for producing *oh*. Practice words: ooze, spoon, too, soothe, tooth, moon.

By
ALINE
MORLEY
BALLARD

Let the child repeat this vowel scale until he becomes conscious of the changes in adjustment required for each sound. A child notices this much sooner than an adult. The sounds he makes should not be nasal, and no great muscular effort should be made. Too much muscular effort contracts the throat and results in the so-called throaty voice.

Drill also on the entire alphabet, which is sadly neglected in public schools. Have the child pronounce each letter distinctly, being careful that *h* does not become *aitch* or *w, double yer.*

Teach him to speak slowly and distinctly, but do not let him drawl, for drawling results in whining. Furthermore, concise and spirited expression has a stimulating effect on the mind and is a step toward health. Smooth, rippling poems used as reading exercises aid in acquiring beautifully modulated tones. Difficult words should be pronounced syllable by syllable.

Finally, remember that children learn by imitation and that speech is one of the first things to be imitated. One child who lisps may give this defect to other children.

Young children particularly respond almost instantly to sweet, quiet, low tones. Unfortunately, most persons when irritated allow their tones to become shrill, high and fault-finding. If a child never heard this kind of a voice, he would never develop one, providing, of course, he was not influenced by physical defects.

The telephone, the radio and the talkie have made the speaking voice more important than ever before.

Like company manners, speech cannot be put on at will. It is far easier to acquire good habits in childhood than it is to destroy faults in maturity. Ten minutes of daily practice with any child will work wonders.

The impression that a child makes in the world—his business, social and domestic relations—will be determined largely by his speaking voice. Will he charm and interest his listeners or will he fatigue and bore them?

It depends entirely on his parents—on the attention and training they give his voice while he is still a child.

How Science Solves Crime

VIII. The Microscope

By
CALVIN GODDARD

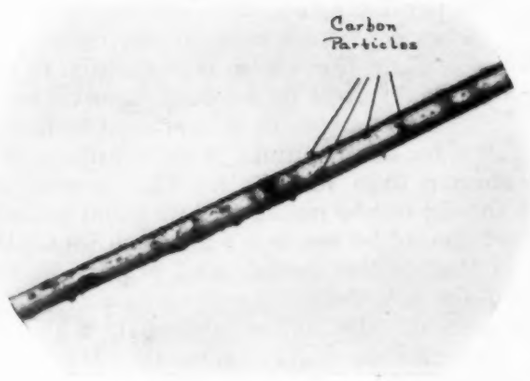


Figure 1.

IN RECENT years, not a little attention has been directed by many writers in the public press and in periodicals of semi-scientific nature to the increasing importance of the part which the microscope plays in studying the traces of a crime. Scientific sleuths of fact and fiction have been depicted with their eyes glued to one of these instruments, studying minute objects of divers characters and deducing from their observations information of the utmost significance. Some of the tales with which we have been regaled are true and some highly fanciful, but even the most patently imaginary have frequently fallen short of duplicating in human interest and in astonishing developments many of those taken from actual experience.

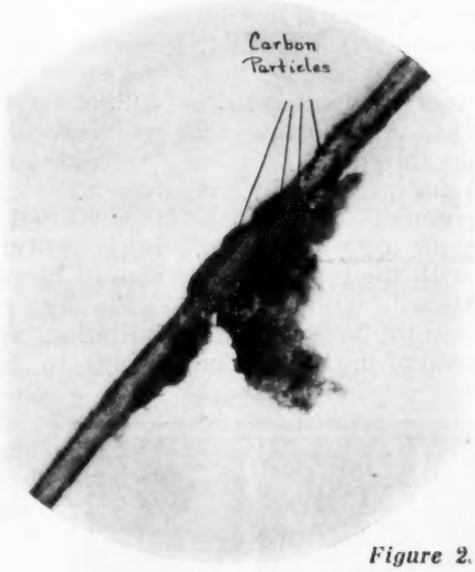


Figure 2.

Prof. August Vollmer, lately of the University of Chicago and now holding a chair at the University of California, is authority for the following story. The hero of the tale was the late Dr. Albert Schneider, then director of the Berkeley Police Laboratory, a man of prodigious intellect and tremendous scientific attainments, whose untimely death some two years ago left a vacancy in the ranks of qualified students of laboratory methods of crime detection which will long remain unfilled. Presented with a number of sticks of dynamite to which were attached a cap and fuse, the whole being enclosed in burlap and paper and bound with a piece of cotton twine, he commenced his studies with an examination of the last-mentioned material. Unwinding it carefully, he immersed it in distilled water and agitated it violently in order to remove any foreign particles which might be adherent. The water was then siphoned off, and the solid matter which it contained was carefully filtered out and subjected to microscopic examination. Dr. Schneider's report, based on this examination plus certain additional studies of the paper wrappings, was as follows: The twine had come from a farm through which ran a swift stream of water and on which would be found pine trees, several varieties of shrubs (specifically mentioned), black and white rabbits, a bay horse, a light cream cow, and Rhode Island Red chickens. Examination of the sticks of dynamite revealed certain numbers plus a date of sale which made it possible to trace the explosive to a dealer in Novato, Calif. From him it was learned that three sales of this material had been made to as many different persons in the vicinity of Novato. When search was made for them, the captain of detectives in charge was amazed to discover that the description of the farm supplied by Dr. Schneider agreed exactly with that of one adjacent to the premises occupied by one of the buyers of the explosives. It developed that the dynamite had been stolen from its original purchaser, presumably by two Italians employed on the farm described. These men had subsequently disappeared and could not then be located.

While Dr. Schneider's observations appear almost miraculous, it is quite evident that he

could have reached his conclusions only on the basis of what he saw and that the minute bits of matter which he was able to extract from the twine and paper submitted for his scrutiny had each contributed something toward building up the picture which he was able to draw. In short, the story was all there, provided the investigator knew how to set about piecing it together.

There is hardly any case of criminal activity in which a similar story does not exist and in which all the concrete evidence necessary to bring it out completely and accurately may not be found, provided one assigns to the investigation a man who knows what to look for and what to do with his material after he has found it. In the hands of an untrained person, a package of dynamite wrapped in paper and tied with string is just that, no more and no less, but in the hands of Dr. Schneider it proved a veritable mine of information.

The efforts of the Scientific Crime Detection Laboratory of Northwestern University have constantly been directed toward training its personnel to take account of the fact that frequently the least obvious feature in the investigation of a crime may ultimately become the most important. The training course in crime detection methods, conducted in 1931, attempted to impress this as forcibly as possible on the students who attended. That they were quick to appreciate the significance of this teaching was illustrated by the excellent solutions which the majority of them presented in the case of an artificial crime of murder which each and all were required to investigate in connection with their final examination.

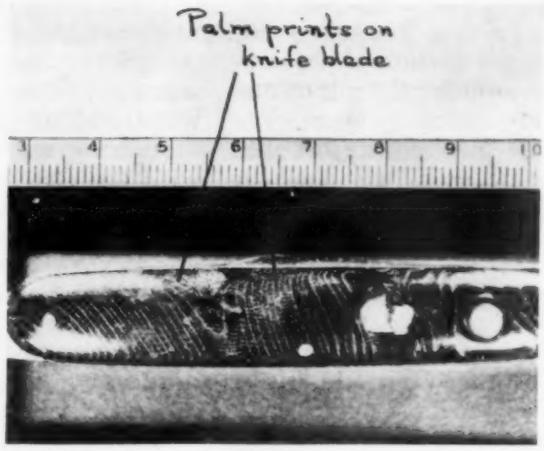


Figure 5.

The presence, on one trouser leg of the victim, of human hair matching in color and in other characteristics that from the head of a certain member of the laboratory staff was noted by most of the observers, none of whom failed to accord it proper significance. A few fibers from the coat of the same staff member, caught in a sliver of wood projecting from a door frame, also did not escape their observation. The hairs plus the fibers when added to certain other significant evidence proved conclusively the guilt of the individual in question, and yet it is unfortunately quite doubtful whether, had the murder been an actual one and its investigation conducted by persons lacking specialized training, either of these most important clues would have been noted, or if noted, employed to develop the evidence which they stood ready to present.

During the short period of its existence the Scientific Crime Detection Laboratory has been confronted with a number of interesting cases in which hairs, fibers and dust particles have taken a prominent place. Some of these merit detailed description. In one instance, which involved the death of a pedestrian at the hands of a hit-and-run driver, an automobile was found which showed on its right front fender some dried reddish material which proved to be human blood. Imbedded in it was a single hair. The question was primarily whether this was of human origin and secondarily whether it had come from the head of the victim.

Until recently, all efforts to identify a single hair as from the head of a given individual have been handicapped by the fact that the same person may number, on his head, hairs of divers diameter, differing in color shading, length and to some degree in structural characteristics. The most that it had been possible, therefore,

Figure 3.

Figure 4.

to determine, when comparing an unknown hair with those known to be from a given person, was the presence or absence of like characteristics. When these were sufficiently numerous and when other attendant circumstances were available to increase the probability of the unknown hair having come from the head of this person, the existence of such like characteristics naturally lent considerable weight to the belief that the known and the unknown hairs might readily have originated in the same place, but there was nothing to controvert the theory that hairs from the head of an entirely different human being might exhibit these same features.

A real step forward has recently been made in this field through the efforts of Mr. E. Carleton Hood, member of the Scientific Crime Detection Laboratory staff and a graduate of its training school class of 1931. Through the application to a single hair, mounted on a microscope slide, of a powerful source of illumination set so that the light rays would reflect from the hair at an angle rather than strike it in the axis of the microscope, he established the presence of what, for lack of a better term, he designates as "growth rings." When the proper technic for illumination is employed, these may always be observed. They vary in number according to the age of the individual from whom the hair under examination has come. When this approximates 20 years, some six such rings will appear, about evenly spaced, in each tenth of a millimeter of a hair's length. At 40 years, they average twelve to each tenth of a millimeter.

Figure 6.

Here we manifestly have a discovery of first importance. For if, in addition to demonstrating certain like characteristics between a known and an unknown hair under examination, it is further possible to prove that each exhibits the same number of growth rings per unit of length, one can, if Mr. Hood's theory is correct, come close to establishing the fact that the two hairs are from individuals of the same or approximately the same age.

In the hit-and-run case referred to, Mr. Hood's studies revealed some interesting facts. The victim was employed in surroundings in which the air was heavily laden with coal dust. Samples taken from his head showed the presence of numerous fine carbon particles (fig. 1). Study of the hair from the fender of the suspected car showed a mass of similar particles adherent to it (fig. 2). Furthermore, the rootward end of this hair was severed bluntly as though by a crushing blow (fig. 3), in contrast with the straight margins of a hair cut off by a sharp instrument (fig. 4). A count of the growth rings in this hair and of those present in several others from the head of the dead man showed the same number per unit of length in each instance. Hairs from the head of the suspect, driver of the car, showed an entirely different number. The chain of circumstantial evidence was practically complete.

In another unusual case investigated by Mr. Hood, a man had been killed in a shooting affray. His death was not instantaneous, for he evidently had time to draw a small pocket knife and lunge at his adversary as he lay dying on the ground. When officers reached the scene, this knife was found close by the body. It bore blood stains and was identified by friends as the property of the victim. The fact that it had last been grasped by his own hand was neatly demonstrated by Mr. Hood, who photographed the palm prints present on its surface and proved that these had been left there by the papillary ridges on the right palm of the deceased. A photograph of these prints appears in figure 5. Careful scrutiny of the blade revealed the presence, in a tiny nick along its edge, of some fine textile fibers. Other similar fibers were caught in the shank, while dust fibers quite different in appearance were present in the hollow of the handle. Microscopic study of the dust present in the dead man's

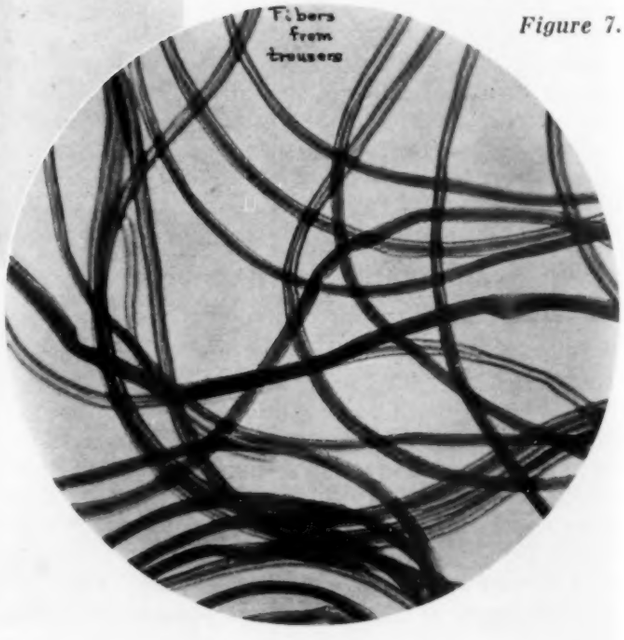


Figure 7.

pocket showed that it was composed of the same constituents as found in the hollow of the handle. The textile fibers, however, presented a problem. They were weighted wool of approximately uniform diameter and structure (fig. 7) and were dyed in two colors, red and yellow. None of the articles of clothing worn by the dead man contained any such fibers.

The garments which the suspect had worn at the time of the murder were secured. Fibers from each article were subjected to microscopic scrutiny. All were quite different from the red and yellow wool fibers from the knife blade until the trousers were reached. Here the observations were most illuminating. There was a rent near the bottom of one trouser leg, and surrounding this was an area of blood staining. The ankle of the suspect showed the presence of a sharp incised wound such as would have been made by the knife in evidence. The fabric of the trousers consisted entirely of red and yellow wool fibers of the same diameter and microscopic structure and colored in the same hues and shades as those which the knife blade had yielded (fig. 6). Once again the chain of circumstantial evidence had been completed.

These two cases serve to illustrate the possibilities in the field of microscopic investigation of objects which would ordinarily fail to receive attention in the usual criminal investigation. These possibilities are endless, provided each case is undertaken by an expert so trained as to keep constantly in mind the importance of looking for evidence not ordinarily apparent to the naked eye. Thus the scrapings from the finger nails of a person suspected of a crime of violence—provided he is taken into custody within a reasonably short time after the commission of a crime—may readily reveal on microscopic examination the presence of textile fibers which may be identified with the clothing of the victim, of hairs which can be shown to exhibit the same microscopic characteristics as others from the dead man's head or body, of epithelial cells scraped from his skin or mucous membranes or even tiny droplets of dried blood. The average murderer, no matter how carefully he may undertake to remove blood from his hands or clothing, will fail to take into consideration the revelations which a cleaning of his finger nails may offer. Unfortunately the same is true of the average peace officer who takes him into custody. But a new era is now at hand, and within the next few decades the scientific sleuth, who until now has existed almost entirely in fiction, will become a happy reality.

In the October number Colonel Goddard will discuss another phase of scientific crime detection. His article will deal with "Powder Marks in Homicide Cases."

To My Small Son
Who Sometimes Should Be Censored

By Sara Henderson Hay

Two things, my son, are foremost on the roll
Of qualities I hail your high possessing:
An unembarrassed privacy of soul
(Childhood's exclusive but too transient blessing)
And your quite stark and dauntless point of view,
With yet Propriety in small dominion—
Whereat I tremble, though I envy you
Such devastating candor of opinion,

So unabashed an honesty! However,
As I am not infrequently advised,
Humor still bows to Custom—and hereafter
When such occasions rise, I might endeavor
At least to look *properly scandalized,*
Instecd of crumpling thus with helpless laughter!

International News

Seaman Richard Jacobs, shown with the queer-shaped device in his mouth, is demonstrating the "mechanical lung" used by sailors abandoning disabled submarines.

Acme

MODEL SCOUT

Although William Lohr is blind, he has earned many scout badges. Because of his handicap, he cannot become an Eagle Scout, which requires recognition of birds by sight. His fellow scouts at Utica, N. Y., are trying to gain permission for him to study bird calls instead.

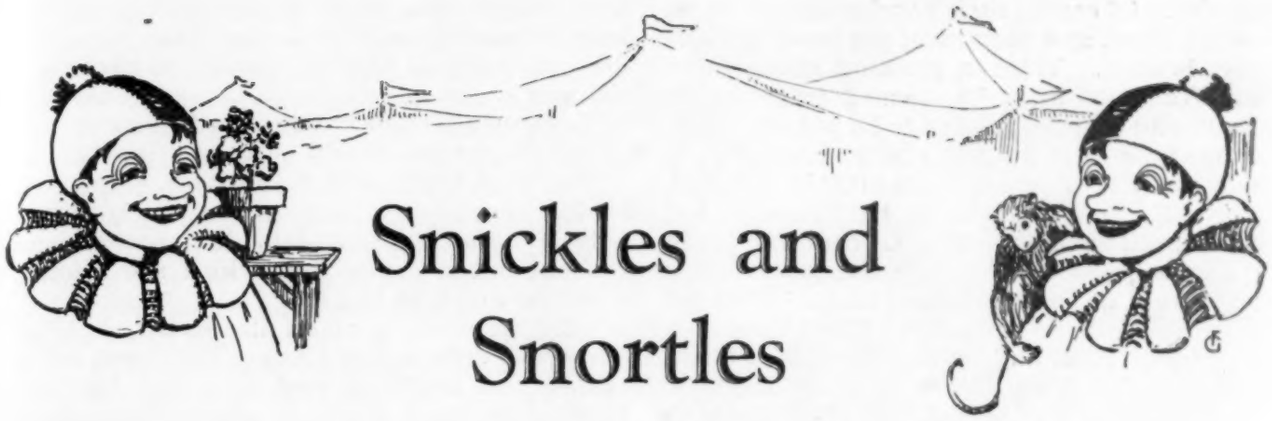
Wide World

International News

Sunnyside, a community settlement of Long Island, lives up to its name as the small children don the latest in sport clothes.

TRICYCLING

It is all a matter of free wheeling for this Scotch family enroute to Loch Lomond, that beauty spot of history and literature.



Snickles and Snortles

the Circus Twins

By
NELLIE G. HERRIMAN

SNICKLES and Snortles sat on the edge of their bunk, their eyes big with excitement.

"Just think," said Snickles, "it is only one more day."

"Only one," agreed his brother. "Won't we have fun?"

"Yes, indeed. Being a twin makes it just like having two birthdays at once, and if there's anything nicer than one birthday it is two of them. My, we must hurry and make our plans."

"We can't tonight," said Snortles regretfully. "It is almost 8 o'clock. Let me tell you, when it is bedtime, I shall be in bed. I've learned that bed is the best place for little clowns when night comes."

"A-chew! A-chew!" came a voice from outside the tent, and Pee Wee entered. His face was flushed with fever, and his eyes watered miserably.

"Why, Pee Wee," said Snickles kindly, "aren't you rid of that cold yet? Brother's lasted only one day."

"A-chew! Naw, when I get a cold it hangs on forever." Pee Wee, the smallest dwarf in the circus world, took a large handkerchief from his pocket and blew his nose lustily.

"You should be in bed," advised Snortles. "I took a warm bath and stayed in bed when I had mine, and it was gone in no time."

"Aw, you're a sissy," said the dwarf rudely.

Snortles found that his face was becoming hot with anger, so he laughed. He had found this a good thing to do when he felt himself losing his temper. "I'd rather be a sissy than have a cold."

"Suit yourself," sniffed the dwarf, rubbing his hand over his aching forehead. "A-chew! A-chew!"

"I hope you'll be able to come to our party tomorrow," Snickles told their guest. "We are having our ninth birthday, and Mother said we might plan a little party."

"What will you have to eat?" asked the dwarf.

The boys had been told that this was a rude question, but he was their guest and they answered politely. "We will have sandwiches with lots and lots of crisp lettuce, and some ice cream with sweet crackers."

"The ice cream is all right," said Pee Wee, "but I don't care for lettuce in my sandwiches, and I prefer cake with my ice cream. Chocolate cake with lots of good rich frosting! Yum, yum!"

"We hope to be great acrobats some day," said Snickles solemnly. "So we don't eat such rich food, although we do like it."

"Ho ho ho!" laughed the dwarf, going out of the tent. "I'll be at the party, so keep two dishes of ice cream for me," he called back.

"I hope we do not get his cold," said Snortles. "He didn't use his handkerchief for sneezing."

"Let's gargle, and we'll throw back the flap on the tent so we will have lots of fresh air," said Snickles. "Then we will be safe."

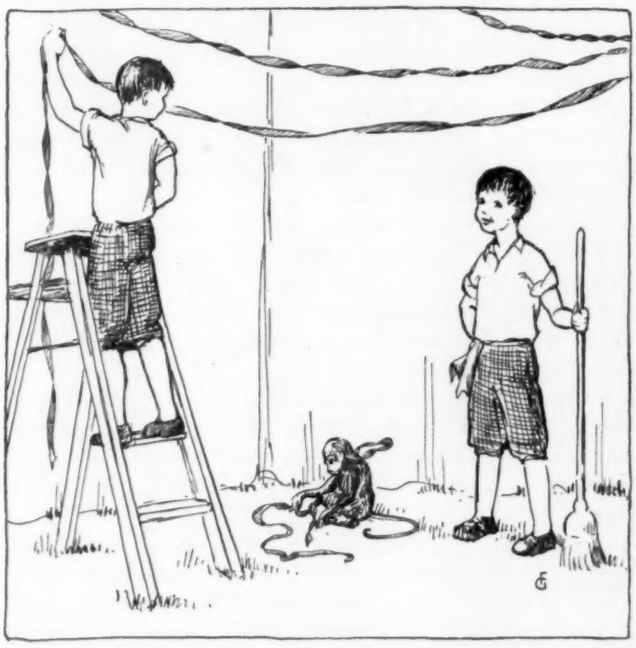
Morning came, bright and clear, and the boys faced a

The fat lady nibbled on a candy bar when no one was looking.

CHAPTER VI

busy day. Of course their regular circus chores must be done, and they must get ready for the party, besides. What a bustling about there was! The tent must be cleaned from top to bottom, and decorations had to be put up. Napkins must be folded neatly and packed away in readiness. Games and contests must be planned. Dandy, the monkey, must be brushed and washed until his hair shone. Of course it would have to be done again before the party, but it always pays to begin brushing early. Seats for the guests must be provided. The circus boss happened to pass, and he told them they might carry enough folding chairs from the big tent; so this problem was solved. By night the boys were quite tired but extremely happy.

The next day, after the afternoon show was over, they ran back to the tent, quickly washed, gave Dandy his bath and tied a red ribbon around his neck, and then they dressed in their best suits. The tent was as neat as a pin, and the chairs made a cozy circle before it. Mother



What a bustling about! They cleaned the tent from top to bottom and put decorations up.

had promised to prepare the refreshments in the cook tent with the aid of Mose, the cook, who gladly helped, as he was invited, too.

Soon the guests began to arrive. The elephant trainer came first, telling them that Little Jumbo, the smallest elephant, was feeling well and happy. Some of the grown-up clowns and performers came in a group. The snake charmer put Roscoe, her biggest pet, in the corner, and he promptly went to sleep. The living skeleton arrived with the fat lady, making rather a strange pair. Mother came with—guess who?—the twins' father! He was an acrobat in another circus, but he had actually been able to come to their party! The animal trainers were there, and so was Mose, the cook. Even the big boss came in, dressed in his brown suit and a new necktie.

"Is every one here?" whispered Snickles.

"All except Pee Wee," answered Snortles.

"Pee Wee is ill," said the fat lady. "His cold became much worse, and he had to stay in bed today." She reached into her pocket and brought out a candy bar, which she nibbled when no one was looking.

They were sorry about the dwarf, but the party was quite a fine affair. There was much joking and laughing, and even the big boss knew some good tricks to play. There were plenty of sandwiches for every one and a bounteous serving of ice cream with crisp sweet crackers. As a special surprise, Father gave each of them a large glass of cold lemonade. Snickles carried some ice cream to Pee Wee, poor fellow!

"Very fine refreshments," said the living skeleton. "If I had learned earlier that these are the proper things for special occasions, I might have been strong and broad like other men."

"As for me," whispered the fat lady, "I much prefer more sweets and heartier foods. I shall celebrate my birthday in a few days, and then you shall see what I mean." She dug deeper into her pocket and found a handful of peanuts, which she ate slyly.

It was a happy crowd which left the party, and the jolly spirits seemed to last even until the next day, for the performance was the best in a long time, the performers seeming to enjoy themselves so much that the audience could not help laughing and clapping.

The fat lady was making great preparations for her birthday. All day, trucks came to her door, rolled away and left behind many boxes and mysterious packages. She called Mose, the cook, to her tent and gave him so many instructions that he went away with his eyes rolling. A bakery man came, and she described the enormous cake he was to bake for her. Warm, sweet smells came from her tent and caused the dwarf, who was feeling better once more, to lick his lips hungrily.

"I'm afraid her party will be much nicer than ours," said Snickles.

"We shall soon know," returned his brother.

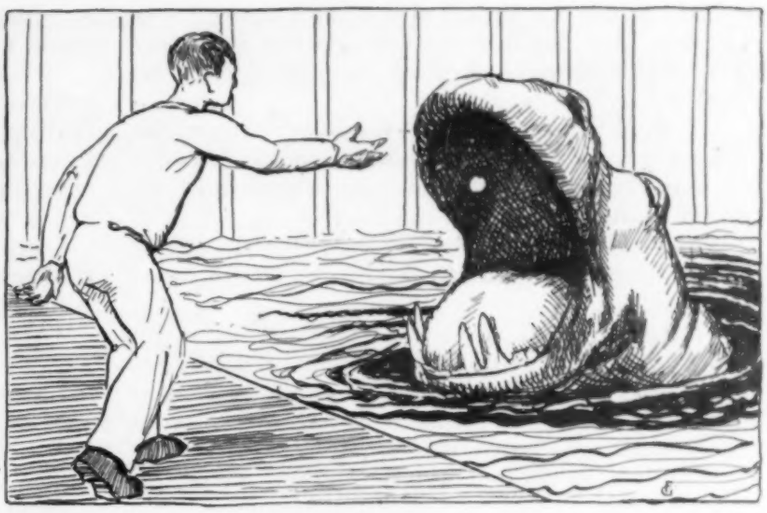
There were few games and no jokes at all at the fat lady's party, but dear, dear! what a lot of food there was! The people ate all they needed, and then gasped when more was carried in. They ate all they wanted, and more came. They ate all they could, and still there was more. They became drowsy from overeating, but still the fat lady insisted that they eat a little more.

"Just another chocolate eclair," she coaxed, "or some more bonbons. You have had only one slice of the fruit cake, and there are still

five mince pies to be eaten. If you prefer, you may have some more of the nuts. Here is a piece of fried chicken just waiting to be eaten! How about a jelly sandwich? What, no more? Surely you have room for a cup of hot chocolate? See, I have piled the whipped cream high on it! Doesn't it look delicious?" On and on she went, insisting that they eat more and more. At last they tore themselves away, rubbing their tight stomachs.

"Ah, that was something like!" said the lion tamer. "I shall give my pets a double feeding this evening, so that they may enjoy the occasion also."

"That is a good idea," said the man who fed the monkeys, and he threw twice as much to his charges as he usually gave them.



He threw in a huge pill when Hippo opened his mouth to groan.

"I had forgotten that eating could be such a joy," said the man who cared for the birds, throwing great bags of grain into the little troughs where the birds came for food.

Old Hippo stretched his huge mouth wide in astonishment when an enormously great bundle of hay and corn stalks was put before him. The tigers ate and ate, and lay down after an exceptionally large meal for a little nap.

Pee Wee's little white kitten purred happily over a second saucer of rich cream, and Dandy, the brown monkey, chattered excitedly when Snickles put a plate of bananas near him.

Every animal on the lot ate such a supper as he had never eaten before, for every owner wanted to share his own happiness with his pets. What a happy munching and scrunching there was!

"See what a fine unselfish spirit my kind of party brings into the circus," smiled the fat lady.

"I wonder if it is just the best thing," said the lovely mother of Snickles and Snortles.

The whole circus went to bed early that night. Some of the performers tried to read or play games in the evening, but their eyes would not stay open and their mouths would not stay shut. "Ho hum!" they would yawn and stretch themselves. "Ho hum!" One after another they went off to their tents, leaving behind them a drowsy "Good night!"

The big boss was uneasy. He had not stayed long at the party, so he was not uncomfortable from too much food himself; but he could easily see that some of his people were far from happy. If he had known they had shared the party with all the animals he would probably have felt even more uneasy.

He watched the lights go out in the tents, one by one, much earlier than usual.

"That is strange," he thought. "I'll stroll about after a while and see that all is well."

Late in the evening he wandered up and down between the rows of tents, pausing often to listen to the sounds that came from them. From the cook's tent there came a rustle that told him the cook was tossing about in his sleep.

"Yum, yum, a grand party!" said the voice of the fat lady.

"She is talking in her sleep," chuckled the boss, "and so is the living skeleton." He went closer to hear what the living skeleton was saying.

"No, not another bite, thank you kindly," murmured the thin man.

"Well, he is polite, even in his sleep!" said the boss.

But he did not find listening so pleasant at all tents, for from many of them there came groans, sighs and even sobs. He shook his head sadly.

"I shall miss my sleep," he thought, "but I believe that I had better stay up tonight. It looks as if I shall be needed."

The first call for help came from the big cage in which the brown bears were sleeping. A snarling, grunting and growling told him that something was wrong. He hurried to the cage and saw that the largest, fiercest bear was rolling in pain in the straw, while the others were crowded into a far corner to escape his scratching claws.

The big boss ran to waken the man who cared for the bears but found that he was already awake and rolling almost as badly as the brown bear.

"Oh, Boss, I'm so sick," he groaned.

"That's too bad. I shall try to do something for you. It's lucky I came when I did. You see, the biggest bear is sick, also, and I thought you might tell me what to do for him."

"Get the animal doctor," groaned the sick man.

"I shall do that," said the big boss, "and I shall call a doctor for you, too."

The two doctors came at about the same time. The one who came to see the sick man said that he could care for his patient by himself, as he

could plainly see that it was only a case of too-much-to-eat, but the animal doctor was sure that he would need help in caring for his patient.

"I shall have to pour medicine down the brown bear's throat," he said, looking wisely over his spectacles. "Some one must hold the bear's mouth open for me."

The big boss said he did not care to do it, and he doubted if any one in the circus would enjoy the task.

"Then I shall have to put the medicine in his food," said the doctor, but the bear refused even to look at the delicious meat they threw to him.

"Well, then, he shall have to get well by himself, although he will probably suffer quite badly." The doctor began packing away his bottles.

Just then a strange noise came from old Hippo's tank. There was a great splashing and grunting and bumping. They ran to him and saw that he was ill too. Medicine was easily given to him. The doctor simply waited until Hippo opened his huge mouth to groan, and then he threw in an enormous pill. The doctor must have been an unusually bright man.

After that it seemed as though the whole circus became ill at the same time. From all sides there were groans, wails and sighs. Not only the animals but nearly all the circus people as well were sick. The living skeleton had a terrible nightmare and dreamed that he was walking a tight rope high in the big tent but suddenly discovered that there was no rope in front of him and none behind. Can you blame him for yelling? His own voice woke him, and at first he thought a giant cream puff was sitting on him, and then he knew it was only the tremendous party supper he had eaten which felt so heavy.

It was a terrible night. The two doctors were kept busy, and the big boss sent for all the doctors in town, and even they were kept hopping to care for the sick. By scurrying about as though their lives were at stake they were soon able to relieve the sufferers somewhat. There was a lot of bad-tasting medicine poured down unhappy throats that night. When morning peeped across the circus lot every one felt much better except Dandy. Snickles and Snortles took turns holding the hot-water bottle against his stomach, and the doctors said he would soon be all right.

The doctors were preparing to leave the lot when a scream came from the fat woman's tent. It was followed by another and another. A great crowd, led by the big boss and the doctors, ran to the tent. Many of the people did not feel like running, but the screams were so frightful that they felt something terrible must have happened.

The fat lady was sitting up in her bed with the covers pulled tightly about her. She was shuddering and choking back the screams that came to her lips.

"Oh, oh," she moaned. "I must have been poisoned. I have been sick all night but was feeling quite a bit better, when I saw the most horrible things in the tent. They were great crawling creatures, and they moved about without a sound. My head still ached, and I felt dizzy. I knew the things could not be real, for they were too awful, and I'm sure my eyes have been affected. I've heard that poisons always act that way. Oh, oh, oh!" She covered her eyes and began to scream again.

"Now, now, calm yourself," said the big boss. "We have several fine doctors here, and I know they will be able to help you."

The doctors examined her eyes but could find nothing wrong. They took her temperature and found it almost right. Her pulse was beating a little fast, probably from fright.

"You have not been poisoned," said the wisest looking doctor. "And it would probably not have affected you so, if you had been. No doubt you ate too much at your party and had a bad dream."

"I'll not eat so much again," she sobbed.

"Have you seen my Roscoe?" said a voice at the door. There stood the snake charmer.

"No, I believe no one here has seen him," answered the boss. "Has he disappeared?"

"Yes, I put him in the box with the other snakes when I returned from the party last night, but when I opened the box this morning they were all gone. I shall be sorry to lose any of my pets, but my heart will be broken if Roscoe has wandered away and become lost." Big tears rolled down her cheeks.

"I believe I know what caused the fat lady's trouble," said the big boss. He got down on his knees and looked under her bed. "Here is Roscoe, with several of his family."

The snake charmer cried, "Oh, goody!" and crawled under the bed after her pets. She carried them off to her own tent, and the doctors said they believed that they would be able to go, at last.

"I cannot understand how the snakes happened to be under the bed," said the boss.

Later they learned that the charmer had been so drowsy, having eaten too much, that she had forgotten to fasten the lid on the box when she put Roscoe away for the night. Roscoe and several of his friends had crawled out and made a tour of the circus lot. They had found seven little guinea-pigs, had eaten them for supper and then hunted a nice dark place for a nap. That is how they came to be under the fat lady's bed.

"Well," said the fat lady, "it was a terrible night, but I'm sure good will come of it, for I have learned that the best party is the one that leaves the guests feeling the happiest."

(THE END)

New Books on Health

101 WAYS TO ENTERTAIN YOUR CHILD

By Jane Parker. Cloth. Price, $2. Pp. 151. New York: Noble and Noble, 1932.

THIS volume is offered particularly to help those who have charge of a convalescent child. Time and again, mothers become almost distracted endeavoring to find suitable entertainment for the invalid. Presuming that convalescence will last one month, this book is divided into separate entertainments for twenty-eight different days. It is handsomely illustrated and includes, in story form, suitable suggestions as well as directions for activities.

MORRIS FISHBEIN.

CHILDREN WHO CANNOT READ

By Marion Monroe, Ph.D. Price, $2.50. Pp. 205. Chicago: University of Chicago Press, 1932.

THE WORRIED parent or conscientiously alert teacher who is seeking light and counsel on the problem of a child with a reading difficulty will hail with enthusiasm the appearance of Dr. Monroe's illuminating volume.

The average layman shies away from highly technical phrases, formidable charts and statistical tables. Of these the book has no more than its fair quota; the batteries of comprehensive tests are simple enough to be handled even by the nontechnically trained person who is charged with the responsibility of handling children's educational problems.

Dr. Monroe tells us that approximately 12 out of every 100 children have a reading disability serious enough to require special remedial treatment. A predisposition to left-handedness is only one of a variety of causes. The child who is definitely left-handed and is fortunate enough not to have had his normal method of functioning interfered with is not likely to have any trouble. However, many cases are found in children who lack a dominant "handedness"; this results in such inversions as *won* for *now*, *saw* for *was* or *b* for *d*. Other common causes are poor visual motor control, with a tendency to skip to the end of a word or from line to line, and likewise poor auditory habits and the consequent lack of facility in distinguishing sounds, such as *e* for *a*, which is disastrous in reading and spelling alike.

Forty typical case studies are given from a group of children handled by the Institute for Juvenile Research in Chicago. Of these the most dramatic is that of the potentially superior child who spent four years in a school for defective children before her particular difficulty was diagnosed and remedial measures were instituted. She was enabled, after a year's painstaking tutoring, to enter the freshman class in high school and to maintain her proper place with her age group.

Dr. Monroe's appended bibliography shows that previously published literature on this important subject has been mainly concerned with diagnosis. The important contribution of this book is the account of the remedy in the cases studied and in the description of each child's reaction to the remedial procedure. Invariably there is a conditioned reaction that complicates the situation, such as a strong emotional resistance or in some cases open rebellion against even trying to read by the child who feels that he is failing to "make the grade."

Maladjusted attitudes such as these invariably clear up when the child is enabled to face and overcome the original handicap that has been troubling him.

GLADYS E. H. HOSMER.

EXPRESSION—GYMNASTICS

By Rudolf Bode, M.D. Translated from the German by Sonya Farthal and Elizabeth Waterman. Price, $2. Pp. 160. New York: A. S. Barnes & Co., 1931.

OF THE 160 pages in this book, 60 are devoted to "Theory," an extremely philosophic and psychologic exposition which leaves the reader vainly attempting to decide just what the author really means. An intensive study of Part Two, "Practice," tends to clarify somewhat the haziness of Part One. Readers acquainted with other modern schools and methods of bodily movement will perhaps enjoy and profit by a study of this book, which is the first of its kind available in English.

LILLIAN KLEIN,
Head of Physical Education Department, Lindbloom High School, Chicago.

A CHILD'S BOOK OF THE TEETH

By Harrison Wader Ferguson, D.D.S. Cloth. Price, 68 cents. Pp. 106, with numerous illustrations. Yonkers-on-Hudson, N. Y.: World Book Company, 1932.

IN HIS revised and enlarged edition of "A Child's Book of the Teeth," Dr. Harrison Wader Ferguson has amply exemplified his theory, expressed in the preface, that "a right attitude of mind and pleasant associations are required to make the proper care of the teeth a habit of daily life." His book will assuredly afford many pleasant associations to children old and young. Through facile phrases, clear concise explanations and vivid word pictures he appeals to the child's reason and intelligence, and through fascinating and charming illustrations he makes a visual appeal that stirs the child's imagination.

The book may be used as a textbook or, better still, as a "pretext," for once it reaches the hands of the child, no teaching or preaching is necessary; the word pictures and the cartoons and other illustrations that are sprinkled so lavishly and colorfully throughout the book will have their own "sales appeal" and will impress their meanings on his mind and prompt him to inquire further. The blood, for example, is referred to as the food pedler, the teeth and bones being good customers for lime. Hours for sleep and rest are chalked up on a railroad time-board showing the Early Bird Express, the Home Work Flyer and the Party Night Special. The six-year molars are called the "bumpers" for the other permanent teeth, since they cause the other teeth to "stay on the track and come into their proper places."

Dr. Ferguson has skilfully employed all the devices that tend toward forceful clear exposition—visualization, picturization, simple vocabulary, striking figures of speech, large clear type and pleasing use of color.

The book will do much to spread the gospel of prevention and early control of dental disease. Teachers will find it extremely helpful and will welcome its many hints, suggestions and aids to teaching, such as drills and songs.

LEOLA J. HARRIS.

School Days

Newly installed safety gates are daily protecting the children of Evanston, Ill. School boys acting as police are on duty as their schoolmates come to and from school.

International News Photos, Inc.

Acme

Little Antonia Morales has good reason to be proud, for she has been declared the cleanest and best kept child in all the infant schools of Barcelona, Spain.

Would you have guessed? The building below, which the children are entering, is a new grammar school in Amsterdam, Holland. Movable glass walls provide a light airy environment.

Underwood and Underwood

Acme

WINNERS

At the conclusion of a ten-year campaign for good teeth, celebrated recently in Chambersburg, Pa., a guard of honor was appointed for Wanneta Cromwell. Her two companions also have perfect sets of teeth.

HEALTH and the SCHOOL

Edited by J. Mace Andress, Ph.D., 67 Clyde Street, Newtonville, Mass.

Before the baby can creep, he learns a great deal about his physical self and his immediate environment, for the love of knowledge is innate. What delight the baby gets in discovering his own body —his ears, nose and toes!

Acme

New Knowledges for Old

THE LOVE of learning is inborn. Before going to school, children have an obsession to learn. Before the baby can creep he learns a great deal about his physical self and his immediate environment. Through actual experiment and experienc he finds that some things are hard and others soft, some things are hot and others cold. He refuses to drink his milk when it is sour. He gains a certain amount of skill in manipulating his toys. What delight the baby gets in discovering his own body—his ears, nose and toes! When mother puts on her coat and wheels out his carriage he gurgles and shows his delight. He knows that he is going for a ride.

As he begins to creep and walk, learning proceeds at a rapid rate. There is contact with a larger environment, and he gains much by observing his parents and other children. His curiosity knows no bounds. Everything is investigated. Questions are almost constantly asked. Those questions, although simple, penetrate into the heart of things. They concern themselves not only with the spider that spins its web on the piazza but also with the Infinite and with the child's own origin. There is such zest for learning that normal children are indeed unhappy if they are not learning.

On entering school a new epoch in the life of the child begins. The kindergarten with its understanding of little children is skilful in continuing the natural process of learning experienced in the home. Most first grades are fairly successful in teaching. But as the children move through the grades it often happens that they show a dislike for school work so that when they leave school, no matter at what point, they hope they will never see or hear any more about Latin, history or mathematics.

Does this mean that children have lost their love for learning? Not at all. There may be a number of reasons why a subject is disliked. Perhaps the teacher was disagreeable, the subject too difficult or other interests became dominant. Certainly there is one reason that is altogether too common; namely, that children are called on frequently to repeat or relearn what they already know. This is deadening. Every adult knows how dull it becomes when some member of the family relates the same joke or experience for the fortieth time. One's attention travels away into dreamland or busies itself probably with something more vital. So it is with school work.

"I always liked Washington until this year," said a high school girl the other day, "but we have heard almost every week the same sort of things that we were taught all through the grades. Isn't there anything new about Washington?" A boy filling in his program card for next year wrote "hygiene" with obvious signs of disgust. "More of the same dope we have had, I'll bet a cracker," he sniffed. "I suppose they will be telling us more about the teeth or about eating spinach. Gee, I have heard so much about it that I am just sick of the words hygiene and health."

Here is a challenge to all teachers. Do we really know how much our pupils have already learned? Unless we know, we are not fitted to do our work effectively. If children are already cleaning their teeth and going to the dentist regularly and if they already know about the processes of digestion that take place in the mouth, our instruction will be boring if it is repeated. Probably something about the teeth should be taught in each grade, but such instruction may well be an ever widening circle so as to bring in new facts and problems. For example, after Commander Byrd's expedition to the South Pole the children of a sixth grade became interested in the care of the teeth of Byrd's men. If the same essentials are to be taught from one year to another—and that may be necessary—it is desirable that children should have the exhilaration of learning something new. All children and even adults still have a zest for learning if it is called into being.

This suggests that classroom teachers and special teachers of hygiene who are meeting new groups of children at the beginning of the year should try to find out the exact stage at which their pupils are. What health habits are they practicing? What do they know? What is their attitude toward what they know and do? To find out these things the teacher may ask her pupils to write down answers to questions that seem to her to be vital for her class or grade. They may be questions about the teeth, digestion, first aid or community hygiene. In the testing of health knowledge, the Gates-Strang Health Knowledge Test, a publication emanating from Columbia University, may be helpful. The tests are prepared for use in grades 3 to 12. Five answers are given after each question. The pupil is asked to mark only one best answer. Here are samples of two questions:

1. We should have fresh air
   - ....all the time
   - ....in the daytime but not at night
   - ....at night but not during the daytime
   - ....especially in summer
   - ....when we begin to get a headache

2. Boys and girls should brush their teeth
   - ....twice a year
   - ....once a month
   - ....twice a day
   - ....once a week
   - ....twice a week

A preliminary sampling test at the beginning of the year will not only give the teacher a good idea of what the class as a group needs but may also reveal individual needs that are exceptional. This opens the way for special instruction.

The teacher who during the first month of school discovers the real health needs of her pupils has taken an important step in making her year's work successful. She has laid the foundation for some real teaching. This means giving the children a good chance to learn.

TEACHING HEALTH

(In this column will be published each month concrete examples of good health teaching. Teachers are invited to send in contributions not exceeding 600 words and preferably less to the editor of this department. Illustrations of the actual work of children will be welcomed. Contributions accepted will be paid for but no manuscripts will be returned.)

NUTRITION IN HEALTH EDUCATION

AN EMINENT doctor has said: "To expect an underfed, malnourished child to profit by educational advantages is a grievous error, no matter how superior he may be." To give a knowledge of proper nutrition that will function in the daily lives of the students is one of the great problems of the health educator. In the DeWitt Clinton High School an attempt has been made to meet this challenge by a health instruction exhibition. By including nutrition in its health education exhibit the teaching staff attempted to show the students means by which facts about food and nutrition can be applied to health in general.

One can live without luxuries, amusements and beautiful clothes, but no one has been able, so far, to exist without food.

In a school as large as the DeWitt Clinton High School, many students are present who need practical nutritional advice. The clinic is maintained by the school lunchroom in cooperation with the health education department. Through these two departments, the school's health promoters aim to meet as many students as possible who need help. The students are referred to the nurse on duty in the lunchroom by members of the health and hygiene departments, the school nurse and individual teachers who are interested in the student's welfare.

The clinic is conducted on a practical basis. Technical terms, as a rule, are not employed. The aim is to have each student apply the knowledge and help received here to his everyday home life. Underweight and overweight children and those having acne are in the majority. There also are other students attending the clinic who are classified as unusual cases. All stu-

Stadler

At the health exhibit, charts and posters brought to the attention of the students some of the benefits that could be derived from the clinic. Foods rich in minerals and vitamins were displayed on trays.

dents who are ill or in need of general health instructions are cared for by the school nurse.

The first concern is checking up on the student's hygiene and health habits. The foundation of health, including sleep, rest, sunshine, fresh air, regular bowel movements, exercise and the condition of the throat and teeth, is considered before food is discussed.

The student's activity or the average day's energy expenditure is next considered. The number of hours he sleeps, studies, attends classes, eats, rests, walks, exercises and spends in dressing are recorded. Dressing is included in order to have a means of suggesting tactfully to the student the amount of time a high school student generally spends in keeping himself neat, clean and orderly. Excellent results are produced by this method. Home conditions, previous illness, and appearance are also noted.

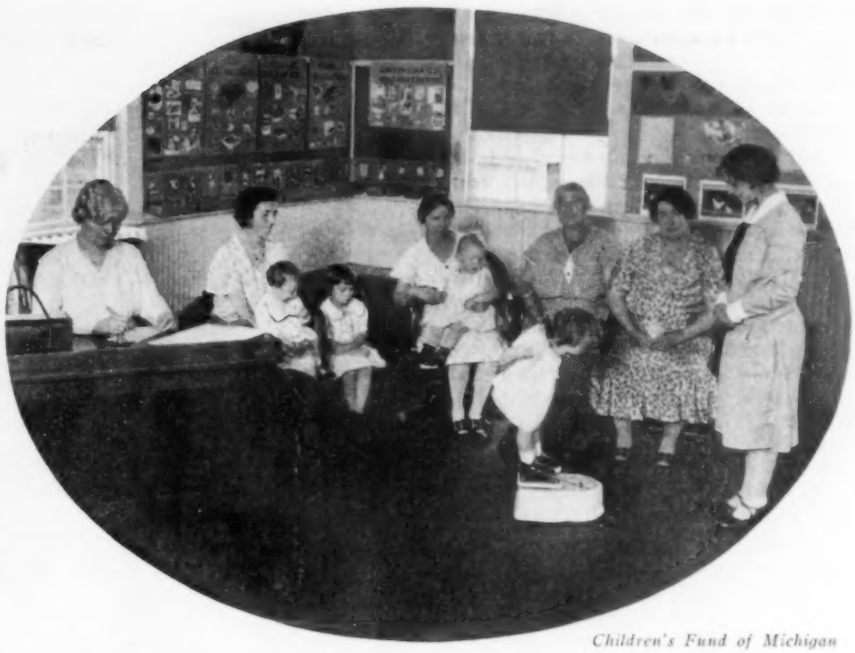
Some students are seen by the nurse only a few times, while others report regularly each week during the whole term. This depends on the student's need, intelligence and cooperation.

Each student is asked to include in his daily diet the following foods: one quart of milk; two green or fresh vegetables, one raw or in a salad; one cereal; one starchy vegetable, and two servings of fruit, one fresh.

Meat, eggs, fish and bread are not lacking in the diet of the DeWitt Clinton High School student. In fact, the students are likely to consume more than their daily needs of these foods. Cod liver oil is added to the diet of students who are noticeably underweight. Water and oxygen are considered as food at this interview.

Usually by this time the student's confidence and cooperation have been gained. During the other appointments, topics such as the following are discussed: the relation of food to health; the benefit of a well balanced diet; protein, fat and carbohydrate in the diet; building, maintaining and fortifying resistance; caloric requirement—calculated from the student's energy expenditure and food consumption; elements entering into the body composition; ash or mineral constituents in the diet; nutritional diseases; vitamins in food; racial tendencies; ease of digestion; idiosyncrasies and any other food problems the student presents.

All students are advised to see a doctor or attend a medical clinic. Some are seen and examined by the visiting surgeon at Fordham Hospital, a former DeWitt Clinton student. The doctor visits the clinic every Friday morning. Usually five students are seen. The visiting surgeon has given a good deal of his time to the school's health problems.



Children's Fund of Michigan

Some children are seen by the nurse only a few times, while others report regularly each week during the whole term.

At the health exhibit, charts and posters brought to the attention of the students some of the benefits that could be derived from this clinic. The posters included two each on vitamins A, B and C and on protein and energy foods, growth and milk. Other posters were on phosphorus, calcium, elements contained in the daily diet, mineral salts, health habits, teeth, balanced menus, resistance, protective foods, signs of malnutrition and causes of malnutrition. Other displays were contributed by commercial firms. Charts were also included showing the proportion of iron, calcium and phosphorus and the percentage of protein, fat and carbohydrate in the following sandwiches: chopped egg salad on whole wheat bread, peanut butter on whole wheat bread, ham on rye bread, cheese on rye bread, lettuce and tomato on white bread and raw cabbage salad on white bread.

A sandwich was placed beside each graph. Foods rich in iron, calcium, phosphorus and vitamins A, B and C were exhibited on trays. Weight charts and charts of the student's food intake were also displayed.

Students who are not in need of nutritional advice are given the opportunity of selecting foods suitable for a high school student by means of menu boards which are placed near each counter in the lunchroom. A sample of the daily menu is offered on each of the four menu boards. An extra board offering suggestions from the daily menu is hung near the office. These menu boards are changed daily and in such a manner that the student can read them understandingly. Students are not obliged to select the foods as planned on the menu; they may select any food they desire served at any of the counters or brought from home. Many students are helped by these suggestions. A sample of a daily menu is offered:

DINNER—25 cents

Vegetable Soup
Broiled Hamburger Steak
Mashed Potatoes Spinach
Sliced Peaches

LUNCHEON—20 cents

Coleslaw and Sardine Salad
Rice Pudding Bread
Milk

LUNCH—15 cents

Lettuce and Tomato Sandwich
on Whole Wheat
Cocoa
2 Raisin Oatmeal Cookies

SUGGESTIONS FROM TODAY'S MENU

Today's Menu Offers a Good Source of

Protein from	Fish	Meat or Milk
Fat from	Milk	Butter Sardine
Carbohydrate from	Rice	Potato Bread
Calcium from	Spinach	Cabbage Milk
Phosphorus from	Meat	Fish Milk
Iron from	Meat	Spinach Cabbage
Vitamin A from	Milk	Spinach Tomato
Vitamin B from	Spinach	Potato Milk
Vitamin C from	Tomato	Cabbage Peaches

The student brings a list of all the foods he eats during the week. This list is checked, and if it is lacking in any of the essentials, the student is asked to increase that particular food.

Although much more could be done with nutrition in health education, the school management is pleased with the results obtained so far. So much depends on the individual student. His home conditions and good will play a big part. Perhaps later, other factors may be included that will help. Today, the staff feels that the little it is doing may lead to higher and better results.

EDWIN H. HASTINGS,
New York City.

AN OLD SCHOOL, BUT RIGHT UP TO THE TIMES

FAR UP in the northern peninsula of Michigan, near Keweenaw Point that juts out into the thundering waters of Lake Superior, on a highway that for miles cuts the silence of seemingly interminable virgin forest, is the little town of Pewabic. Here in 1860, when the country was even more sparsely settled than it is now, the first school north of Portage Lake was built.

Today, the original school, enlarged and remodeled, stands freshly painted, surrounded by a playground with modern equipment in good repair and enclosed with a neat iron fence. Inside the building is a modern heating plant, a ventilating system, sanitary toilets and fire exits—facilities which mean that back of this school is a community that not only wants the best for its children, but, even in its isolation, knows what the best is. So it is not surprising to find that the children attending this school enjoy many advantages that some persons in rural districts think possible only for city schools or for those in wealthy communities.

This is especially noticeable in the modern measures being taken to promote the health of the pupils. The superintendent, teachers, the school board and parents have all joined in trying to make health teaching an important part of the school program. Local physicians also show an active interest in the welfare of the children and give generously of valuable aid and advice. Recently one doctor rapidly inspected the whole school, consisting of 168 pupils, for symptoms of infantile paralysis because a case of the disease had been discovered in the community. The school as a whole has done considerable educational work in regard to this disease and takes an active stand on vaccination, immunization against diphtheria, and the use of the Schick test to be sure the child is protected.

Children's Fund of Michigan

Today, the original school, enlarged and remodeled, stands freshly painted, surrounded by a playground with modern equipment in good repair and enclosed with a neat iron fence.

Not long ago the superintendent called a mothers' meeting at which she and the school nurse explained that the school health records are kept for the sole benefit of the child and that parents must play an important part if those records are to be 100 per cent perfect and the child is to profit by the examinations. The occasion was made a school party at which the high school girls served a delicious lunch they had prepared to 100 mothers. Then the teachers in the nine grades exhibited all the school work that had either a direct or an indirect relation to health and explained informally to the guests the matters that were not understood.

The superintendent believes that a school should do all it can to help the preschool child become as physically fit as possible before he enters kindergarten. Each week, therefore, when the nurse (employed by the Children's Fund of Michigan to serve schools lacking a nurse in Keweenaw and northern Houghton counties) spends a day at the school, mothers are encouraged to bring their preschool children, too, for examination. Family histories and the results of the inspections are recorded. Thus the superintendent becomes well acquainted with prospective pupils.

The nurse explains frequently why the children are weighed and measured, points out the advantages of good health practices and gives each mother the suggestions she needs to improve the physical welfare of her children. This work is showing excellent results in the improved condition of all the children in the community.

At these meetings, too, matters pertaining to health in the home are discussed, such as the need of fresh air in the house, even in winter, to stimulate appetite, promote sleep and satisfy other requirements of health. To impress on the pupils the importance of milk drinking and to encourage the use of more milk, the children are served a milk lunch on Monday, Wednesday and Friday of each week. Each child then receives 10 ounces of milk. The supply is paid for by donations from generous individuals in the community and through a fund that has been built up by giving school programs and entertainments. A record of this distribution and consumption of milk is being kept.

The school nurse has demonstrated vision and hearing tests and examinations for signs of communicable disease; now these tests, as well as the weighing and measuring, are being done by the teachers, as in modern city schools. The school board, also, has made many changes favorable to the pupils. Better drinking water is available; old outside toilets have been disposed of, and hand washing facilities have been improved. Inspections for cleanliness are conducted by the children in order to arouse in each person the desire to be as perfect physically as possible. On the playgrounds a stride swing, turning bars and basket ball facilities stimulate an interest in outdoor recreation.

The correlation of health subjects with other work in the curriculum has been accomplished with unusual success in this school. In the classrooms, health charts are actively used and posters have been made by the children to stimulate their interest in proper foods. In the primary grades the daily health program includes the morning inspection for cleanliness and any symptoms of illness; language lessons in desirable health habits; con-

struction of posters and books about health; the learning of songs and reading of stories related to the child's activities.

In the fourth and fifth grades, intensive work on the establishment of definite health habits is continued. In the sixth and seventh grades this work is continued and the reasons for the practices are developed through practical lessons in physiology. In the eighth and ninth grades definite associations with good health habits are built up through civics, English and general science.

In summarizing the work of her school, Miss Elizabeth Harnett, superintendent, says: "We are endeavoring to prepare, in the present generation, citizens who possess not only knowledge and information along many lines but also equipment along health lines: a sound body and health habits that will enable every product of our school to keep his or her human dynamo up to par so each one may live a better and fuller life, and contribute to the joy of others by making this a happier, healthier and more efficient world." BERTHA STREETER,
Detroit.

NEW HEALTH BOOKS AND TEACHERS' MATERIALS

EDUCATORS may differ as to how the term project is to be defined, but purposeful activities are highly desirable. Mr. Brock, the author of this helpful book, "Health Through Projects,"[1] considers a project as "purposeful activity definitely planned and successfully completed." If this kind of teaching is carried out successfully, deep personal pleasure and satisfaction are bound to result. The project may help the pupil to enjoy healthful living.

The projects are treated under general headings, such as sleep and rest, fruits, vegetables, eyes and ears. The plan of attack is the same in every case. First, there is a general discussion of the subject so as to give the teacher a background. The points to be emphasized are carefully and briefly summarized. Next there is a summary of the aims, objectives, habits, adjustments, attitudes and knowledge which may be sought through the projects in this particular field. Then various projects are suggested which carry with them the spirit of play. There is quite a voluminous bibliography at the end of each of the main subjects discussed. At the end of the book, methods of grading, scoring, charting or testing the activities and knowledge of the subjects taught are considered.

Teachers will appreciate the author's careful compilation from many sources of the lists of projects. Unfortunately, the projects are not classified according to grades and the treatment of method is general. Nevertheless, the book is so full of suggestions that any teacher may find something in it which is helpful.

THE modern school offers so many problems to the teacher that it is difficult for her to discover just why individual children fail. Often such children become conscious of failure in the classroom recitation, in examination or at the time for promotions, but little definite is done in the way of remedial teaching.

The authors of "Diagnostic and Remedial Teaching"[2] have made a noteworthy contribution to educational literature by preparing a text which emphasizes those technics of diagnostic and remedial teaching that may be employed by the average teacher. Such teaching aims to get at individual problems in learning. The teacher may find just what the difficulty is and so teach the individual child just what he needs.

The last chapter in the book is on diagnostic and remedial teaching in health education. It contains nothing new but does assemble the little material which has accumulated in this field. Little has been done so far in diagnostic and remedial health teaching.

WITHIN the last few years there has been a good deal of popular discussion of personality. It has been coupled often with the inflated ego of salesmanship. Many persons think that a personality, however it may be defined, is something that one may acquire by reading a book or listening to a few lectures. Probably no word in psychologic nomenclature has been so abused. Gradually it has come to mean to many students the sum total of an individual's abilities and traits. More and more, educators and hygienists are considering the wholesome personality as the essential or one of the essential goals of education.

It is fortunate that in the midst of much irresponsible talk and many conflicting opinions the foremost scholar and teacher of mental hygiene should publish in his retirement as a professor at Clark University a master work, "The Wholesome Personality."[3] Many years ago when the reviewer was proud to count Dr. Burnham as one of his teachers this clear thinker was lecturing on the subject of mental hygiene, a subject little understood by the rank and file of teachers. He was a pathfinder in a fascinating field, but he was exceedingly cautious and published only brief articles in leading educational magazines. Such a book as this then bears evidence of many years of investigation.

"The Wholesome Personality" is profound, but it is written in a language which any thoughtful teacher can read and understand, and it contains many suggestions for the teacher who would build for herself a normal and healthy personality. Dr. Burnham has a happy way of summarizing his conclusions in a few fundamental principles which should be of great help to the teacher who considers seriously the development of wholesome personalities in her pupils.

This masterpiece of mental hygiene should be widely read by teachers of all grades from the kindergarten to the university. It is an excellent textbook for students in teacher training institutions. It should be carefully studied by all those teachers of health who are inclined to think of hygiene largely as a matter of removing diseased tonsils and adenoids, going to see the dentist and observing a number of formal rules dealing primarily with the physical body. Important as these things may be, they amount to but little unless the individual learns how to meet life and in so doing finds peace and serenity of mind.

FOR several years Miss Paffman and Miss Stern have been carrying on some interesting experiments in teaching nutrition to the children who come to the Boston Dispensary as patients. In this series of talks in which the children share, the food substances calcium, carbohydrate, fat, protein, iron and vitamins that build the body are presented in simple and attractive language. All teachers in our graded schools, particularly those in the intermediate grades, will welcome this book for the many helpful suggestions which crowd its pages. Stories, games, projects and other methods of teaching which have been carefully tested with children help to make the book practical. "Food and Your Body"[4] is a genuine contribution to our rapidly growing literature on the teaching of health.

1. By Brock, G. D., A.B., Ed.M. Price, $2. Pp. 266. New York: A. S. Barnes & Co., 1931.

2. By Brueckner, Leo J., and Melby, Ernest O. Price, $2.75. Pp. 598. Boston: Houghton Mifflin Company, 1931.

3. By Burnham, William H., Ph.D. Price, $3.50. Pp. 713. New York: D. Appleton & Co., 1932.

4. By Paffman, Mary, and Stern, Frances. Price, $2. Pp. 170. Boston: M. Barrows & Co., 1932.

QUESTIONS and ANSWERS

Eyes—Sensitivity to Light

To the Editor:—Is there any relief for eyes sensitive to artificial light? The only defects discovered in my eyes are myopia, astigmatism and a muscular strain caused by divergence. All these defects are corrected by glasses. Yellowish tinted reading glasses which eliminate about 10 per cent of the light have been prescribed, to be followed by dark brown glasses eliminating 50 per cent of the light. Eye drops have also been prescribed. None of these has done any good, however. I have experimented with various types of illumination, such as direct, semiindirect and indirect. Each of these has been tested under varying intensities and with various tinges of amber and blue color screens. I appear to get the best result with light which is considered too dim for most persons. With the darker glasses I find it necessary to increase the intensity of the light. It appears to me that there must be a means to make artificial light conform to daylight. Can you furnish any references to literature on the subject?

A. H. R., Wisconsin.

Answer.—The outstanding difference between good daylight and artificial light is that artificial light is much weaker than daylight. The efforts to imitate daylight by screening out some of the rays that are found in sunlight always diminish the brightness of the light. Any attempt to use the eyes by more feeble light than ordinary diffused daylight, for which nature has developed them, always puts a strain on the organs of vision. If the eyes have a normal reaction to daylight, the condition of eye work and hours of exposure to artificial light should be studied, especially with reference to the deficiency of brightness in the artificial light as compared with daylight.

All eyes except those that are blind and useless are sensitive to light. They are oversensitive if they have been kept too much in the dark. A most extreme case of oversensitive eyes was observed in a doctor, who was brought to have his eyes examined in the dark room, wearing two pairs of the darkest glasses he could get, covered by thick folds of a black silk handkerchief.

The eye's comfort and its sensitiveness to light depend on a good power of adaptation. This power of adaptation can never be healthy unless it is used and the general nutrition of the body is in good condition. Discomfort from poor adaptation is always worse on passing from a dim to a brighter light, and "too bright" light is blamed for it. Too much of the time spent in poor light increases sensitiveness.

In the majority of cases, oversensitiveness to light is dependent on some form of eyestrain. This can be ruled out only by the constant wearing of full correcting glasses, given after most thorough study of eye defects, either of refraction or of movement, including a prolonged occlusion test for heterophoria (squint).

The patient must also be thoroughly studied as to his habits in the use of his eyes and the amount of eye work. But this is not enough. Thorough search for other points from which irritation or reflex nerve actions may start to affect the eyes must be coupled with a study of the patient's general nervous system and nutrition. The right prescription for such a case can be found only by a complete medical study of the patient.

Cancer

To the Editor:—Recently I received a pamphlet stating that the number of cases of cancer has increased in proportion to the increased use of aluminum utensils. Do you agree with this contention? C. F. M., Indiana.

Answer.—The opinion of the American Medical Association relative to aluminum has been previously set forth in an editorial in HYGEIA for October, 1929, and in *The Journal of the American Medical Association* for Dec. 13, 1930.

Of course, it is true that the number of cases of cancer has increased and so, also, has the use of aluminum utensils. However, the mere fact that two factors such as an increase in the number of cases of cancer and an increase in the use of aluminum occur at the same time is no proof whatever that there is any connection between these widely separated occurrences.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Light Therapy and High Blood Pressure

To the Editor:—I understood from a recent radio talk that too much exposure to sunshine or sun lamp can cause high blood pressure or aggravate such a condition if it already exists. What is the concensus among the medical profession as to this? If there is already high blood pressure, is exposure to sunshine or sun lamp at all advisable?

V. A. V., Ohio.

Answer.—Heliotherapy, administered either with sunlight or with artificial light, is not a cause of high blood pressure. Dr. A. Rollier, medical director of the institutions for heliotherapy at Leysin, Switzerland, says: "In our experience, we have always noticed a fall in the blood pressure." This should not be taken to mean that the use of sunlight or artificial light will permanently lower the blood pressure either in a person who is healthy or in a person who is not in good health.

On the other hand, there is no question that improper use of sunlight will be harmful to the person with high blood pressure. If the blood pressure is high, heliotherapy should not be used unless a physician so advises, and treatment should be administered under his direction.

In the treatment of disease, a powerful weapon like sunlight is more frequently harmful than beneficial, unless it is used under well advised medical guidance and supervision. If the family physician suggests sunshine or lamp treatment he should explain further (1) the length of time he wishes the patient to be exposed to light rays from day to day, (2) the portion of the body to be exposed and (3) the time of day (if sunlight is used) he wishes the sun's rays to be used.

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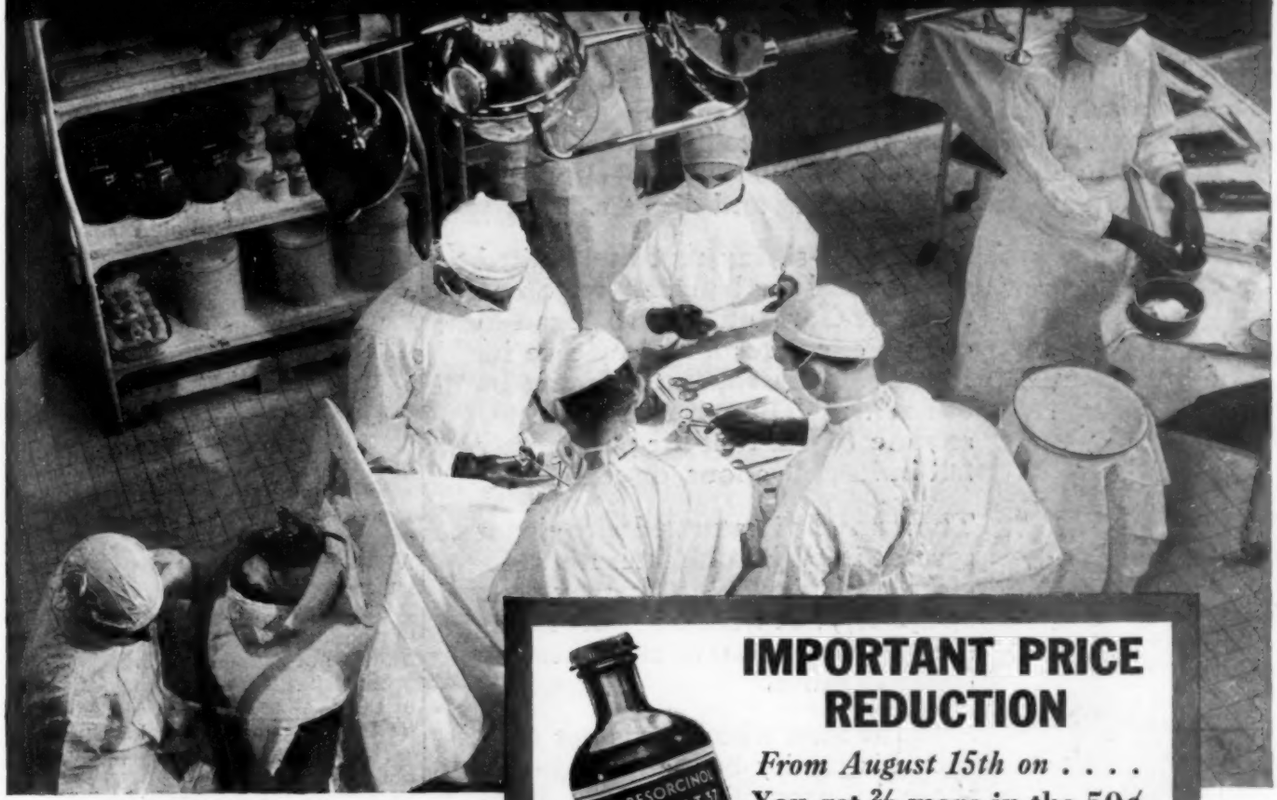

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From August 15th on . . . .

You get ⅔ more in the 50¢ size.

You get the large size for $1.00 instead of $1.25.

And you can safely dilute this effective antiseptic 3 times!

Effective . . . yet non-irritating. Use it at home for mouth, throat and all open wounds

TESTS show that the active ingredient of Hexylresorcinol Solution S. T. 37 (1:1000) is 70 times more powerful than carbolic acid in germ-killing power!

Yet this highly germicidal Solution is non-irritating to the most sensitive tissues! And entirely safe even if swallowed! It does not stain, is odorless and has a sweet, pleasant taste.

No wonder the staff doctors of great hospitals are using more and more of this remarkable antiseptic.

The Woman's Hospital of Baltimore says, "It is used throughout the hospital for antiseptic purposes."

394 nose and throat cases received treatment in the Washington Emergency Hospital last year. In this type of case, Hexylresorcinol Solution S. T. 37 is of special value.

It is used by the staff, the hospital says, because of its great antiseptic power combined with non-irritating properties. For the same reasons, the New England Medical Center employs it for nose and throat cases in the Children's Division.

Specially adapted to home use

Hexylresorcinol Solution S. T. 37 is powerful enough for hospitals to use, yet is perfectly safe for home use.

Gargle with it the minute there is any irritation in the throat. Pour it immediately into every cut. Teach your children to protect themselves with this safe, effective antiseptic.

The Seal of the Council on Pharmacy and Chemistry of the American Medical Association assures you of its trustworthiness. Buy a bottle today. At all Drug Stores in the United States and Canada at the new price reductions.

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640 NORTH BROAD ST., PHILADELPHIA, PA.

I enclose 10¢ in stamps, to cover cost of mailing and handling, for which please send me a generous-sized complimentary clinical package of Hexylresorcinol Solution S. T. 37.

Name_____

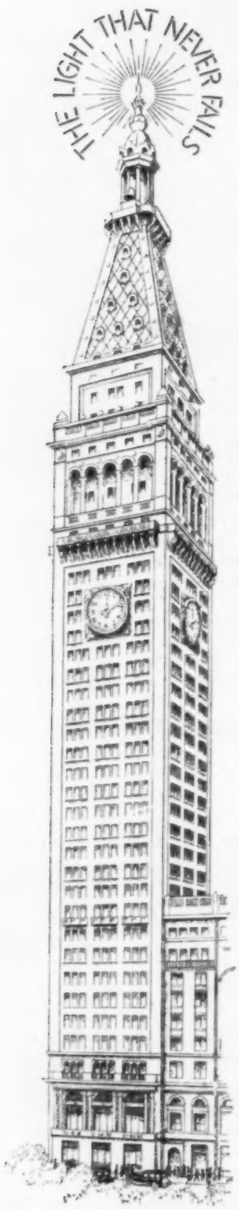
Address_____

Get Readjusted

THE MEN who made the United States the richest country in the world did not go about wringing their hands and quaking in their boots. They worked —whether the going was easy or whether it was hard.

For nearly three years too many men, who themselves have had plenty to eat and to drink, good beds to sleep in and comfortable homes, have spent hours and hours predicting hard luck and disaster.

Last spring such men were saying that the United States appeared to be headed for bankruptcy. Since then the Government has begun to cut its expenses and increase its income. It is resolutely facing its difficulties. There is no reason for anyone to fear that the nation may fail in its obligations, or collapse.



The man who is saturated with gloom spreads it. When he loses his sane, clear-eyed viewpoint he may seek sympathy, but what he really needs is to be shaken out of an unhealthy frame of mind.

And the man who hoards not only robs his family but fails to do his share in promoting normal business and employment of workers. He aggravates the condition which he deplores.

Some men need jobs—need them badly. They must be helped. But more men need to get readjusted to conditions as they exist. These men may need to readjust their mode of living or their way of thinking.

Worries fester and grow in the dark. They shrivel and vanish in the light. There are times in every man's life —whether he be strong or weak, brave or cowardly—when he needs the counsel of someone who is unafraid. And there are many who know that our country has battled through difficult periods and has always emerged stronger than before.

Get readjusted.

METROPOLITAN LIFE INSURANCE COMPANY
FREDERICK H. ECKER, PRESIDENT ~ ONE MADISON AVENUE, NEW YORK, N.Y.

Weak Arches

To the Editor:—What exercises will strengthen weak metatarsal arches of the foot? Would arch supports strengthen or harm weak metatarsal arches? Can one tell by a foot imprint which arches are weak? Do callosities on the inner edge of the heel denote weak arches? Is tap dancing harmful to the arches? What height heel is best for a foot with a weak arch? E. B., California.

Answer.—The arches of the foot may be strengthened by flexion of the toes, which is best accomplished by picking up small objects, such as marbles, with the toes.

Arch supports should be looked on as temporary supports during the time that proper measures are carried out for the restoration and strengthening of the arch. The use of arch supports alone, without accompanying restorative measures, tends to weaken the arches.

A foot imprint will indicate whether or not the arch is flat, but weakness of an arch may be present even when the imprint is normal. A strong, fleshy foot may produce an imprint suggesting a flat foot.

Callosities on the inner border of the heel may indicate that the foot is not planted squarely on the ground but that the inner border of the heel bears more weight than its normal share. The longitudinal arch, in such cases, is usually, but not necessarily, weak. The same holds true for the anterior arch.

Tap dancing may be harmful if the arches of the feet are already weak. In such cases the demands incidental to tap dancing are too great and they tend to promote weakening results.

While no absolute rule can be given, a heel of moderate height, about 1½ inches, suitably tilted and broad enough to give good stability, usually meets the requirements.

X-Rays and Sterility

To the Editor:—Would three exposures of the pelvis in taking x-ray pictures cause a temporary sterility in a young married woman? If so, how long would such a condition last? In what way would it be evident?

H. S., Connecticut.

Answer.—Three x-ray pictures (technically known as radiographs) made of the female pelvis should not cause any impairment of function of the generative organs, even temporarily. There is a danger of producing unintentional sterility when repeated or prolonged x-ray treatment is given over the pelvis; consequently the radiologist must be careful and skilful.

READY!

Let school begin . . .

PENCILS sharp . . . new note books, pens, erasers—everything he needs to work with. But these alone do not make him ready for school. How about his health—is it at its peak? Is he ready for busy days . . . confining periods of study?

Wise parents see that their sons and daughters begin school in the best of health. The family physician gives them a thorough physical examination . . . the dentist puts their teeth in a healthy state. With x-rays, hidden conditions are disclosed; the chest is examined for signs of incipient tuberculosis . . . and the teeth are searched, so that all cavities may be located and filled.

Such thorough health audits should not be limited to school children. Emphatically not. Every member of the family should have one regularly . . . at least once a year. When x-ray examinations are periodically made of the chest, the teeth, and any other parts or organs that may be suspected of improper function, you can be sure the audit is complete . . . that the physician's most important diagnostic aid is employed.

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Send this coupon for a copy of the new booklet, "X-rays and Health." It tells the part played by x-rays in preserving health.

EASTMAN KODAK COMPANY, *Medical Division,*
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Gentlemen: Please send me a copy of the free booklet, "X-rays and Health."

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30 Vesey Street, New York, N. Y.

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*Name*_____

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*City*_____ *State*_____

Loss of Weight in Nursing Mother

To the Editor:—I am 20 years old and have a baby 10 months old who is still nursing. Before her birth, I weighed 150 pounds and now I weigh only 105½. I have a large quantity of milk. After the baby's birth, for at least four months, the milk would flow from my breast in large quantities between nursing times. For three years before her birth I did not menstruate until I went to a doctor who gave me pills to take, to which I reacted every month. I feel normal and well in every way, so is there any danger that I have anemia or consumption or that they may develop? What would you suggest as my cause for losing weight?

P. H., Pennsylvania.

Answer.—The relationship of the weight to the nursing of the baby is one that can be decided only by a physician who has made an examination and thereby ascertained the facts and circumstances in the case. We cannot say whether anemia or consumption is developing, but we would advise, in view of the loss of weight, that an examination be made without delay, so that undue risks are not taken. Both for her own sake and for that of the child, a tuberculous mother should not nurse her baby. For this reason, if for no other, the cause of the loss of weight should be determined without delay.

We should also suggest that the physician be consulted about the advisability of nursing the baby beyond the age of 10 months.

Prolapsed Abdominal Organs

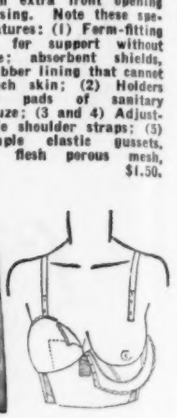
To the Editor:—Will you please inform me whether it is possible with electrical treatments to correct a prolapsed condition of the abdominal organs?

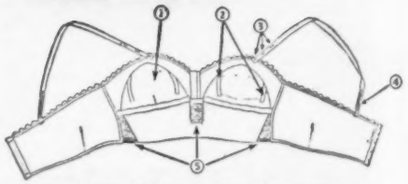
J. S., Michigan.

Answer.—We do not know of any electrical device or treatment that will cure prolapsed abdominal organs. As a matter of fact a considerable degree of prolapse of the stomach and bowels and other viscera is often entirely compatible with good health. Not infrequently in examination after death it is found that an individual who has gone through life without any complaint whatever has had the stomach wall down in the pelvis, the intestines out of place and even the kidneys decidedly lower than the normal position. A simple abdominal support or bandage is usually sufficient to keep an individual in comfort with a considerable degree of prolapsis. In severe cases, surgical operation might be indicated.

Maiden Form
NURSING BRASSIERE

This brassiere aids in preserving the natural breast contours during and after the nursing period. It is back-fastening, with an extra front opening for nursing. Note these special features: (1) Form-fitting fulness for support without pressure; absorbent shields, with rubber lining that cannot touch skin; (2) Holders for pads of sanitary gauze; (3 and 4) Adjustable shoulder straps; (5) Ample elastic gussets. Of flesh porous mesh, $1.50.





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KEEPING CHILDREN WELL

(Continued from page 793)

of mental hygiene. There is, however, some danger in this increase of interest, since "a little knowledge is a dangerous thing." Though the psychoanalytic method of Freud, the individual psychology of Adler, the psychologic typology of Jung and the behaviorism of Watson have all made contributions to our knowledge of children as well as of adults, any one-sided application of the theories by persons not thoroughly trained in psychiatry is liable to be more harmful than beneficial.

However, important as it is to avoid the development of father-fixation, mother-fixation, homosexual trends, inferiority complexes, overcompensations, overaggressiveness, pathologic shyness and seclusiveness, obsessive tendencies and psychasthenic indecision, the average parent will do best to adhere to the simpler common-sense methods of dealing with his children rather than to attempt prematurely to apply more abstruse doctrines that, when needed, are best left to experts.

Those parents who set good examples of living themselves, who sensibly train their children to the desirable physical habits that are well known, who show appreciation of the gifts, capacities and enthusiasms manifested by their children as they develop, who educate their children in the preschool years to good emotional control and to normal attitudes toward others and who show good judgment with regard to the delicate balance between the need for protection and security and the need for self reliance and freedom will be the parents who send pupils into schools prepared in the best way to participate in school life.

School authorities should not assume that pupils are all alike or that they should all be treated in precisely the same way. They should learn from parents as much as possible about the special interests, tastes and capacities as well as about the special difficulties of each child. They should know how to take hold of the intellectual curiosities which exist and how to inculcate tactfully new interests that they deem essential for the educational process. Approval and applause should be accorded to pupils when deserved, for they give joy and a sense of well being and success. Teachers should trust their pupils, assume that they will do well and give them as much freedom of choice in work as is compatible with the school pro-

(Continued on page 854)

They *boast* about clean hands now

—*yet once they were regular soap-shirkers!*

WHAT a chorus of grumbles used to greet Mother's command to wash-up! Good children—but how they hated to wash their hands!

Then along came the Lifebuoy Wash-up Chart. Now everybody's happy! The children, because washing up is sport—keeping score, tallying up, competing. Mother's happy because her youngsters no longer need to be *scolded* into cleanliness.

Washing becomes fun

In thousands of homes the Lifebuoy Wash-up Chart has made "clean hands" a *habit*. Children enjoy the fun and excitement of the Lifebuoy wash-up game. They need no prodding with this challenging score-card before them.

The Lifebuoy Chart tells *why* it's so important to keep hands clean! Pictures show how hands are constantly exposed to dangerous germs—and how to get rid of them with Lifebuoy. 27 germ diseases may be spread by hands, says the Life Extension Institute. Lifebuoy's rich, sudsy lather not only cleanses the hands of dirt, but removes *germs*, too, thus helping safeguard health.

A lovely skin for mother

For a glowing complexion free from beauty-marring impurities—use Lifebuoy regularly. It *purifies* pores—protects against embarrassing body odor. Its clean, fresh scent vanishes as you rinse.

FREE! Fill out and mail coupon below for free Wash-up Chart and trial size cake of Lifebuoy for each of your children. Enjoy welcome relief from grimy hands.

LIFEBUOY

HEALTH SOAP

for face, hands, bath.

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LEVER BROTHERS CO., Dept. 379, Cambridge, Mass.

Please send me, free, Lifebuoy trial cakes and "Wash-up" Charts for my.....children.

Name.....

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KEEPING CHILDREN WELL

(Continued from page 853)

gram, for though freedom has its dangers, it is essential for growth of human character. Every one sooner or later is forced to swim in order to avoid sinking! The greater the freedom of th pupil to choose for himself, under advice and after reflection, the more rapidly will the powers of self determination develop and the greater will be the contribution to the dignity of the pupil's nature. Especially will this be true in schools in which the members of the teaching staff cooperate to inculcate high ideals and to bring home to the pupils the importance of looking ahead and of planning their lives so that they will yield what the late President Eliot designated the more solid and more durable satisfactions of life, which include physical and mental health, the capacity for hard work, the proper use of leisure hours, a life of honor and a decent respect accorded to the opinions of mankind.

I lay great emphasis on this induction of the adolescent into the freedom of self direction. Little birds are thrown out of their nests by the parent birds when a certain stage of development has been reached. Less abruptly, boys and girls should, at the proper time, find out how to become fully emancipated from any undue bondage to family, teachers and friends!

It is the duty of the school to keep in close touch with the family or guardian of each pupil, calling attention to ways in which the home can still further contribute to the pupil's welfare, and it is the duty of the home to welcome such suggestions on the part of the school and to aid the school in every way possible in the execution of the best considered plans for the pupil. General and special conferences of parents, teachers and school physicians can be most helpful, especially if there are frank and free discussions of the actual problems that come up. Schools are all too prone to blame parents and to feel that such conferences do more for the education of the parents than of the school authorities, whereas parents are all too apt to attribute difficulties to mismanagement of their children in the schools. There have been, and are, difficulties on both sides that must be overcome, but the minds of parents and the minds of school officers should be kept open and accessible to influence. The welfare of the pupils should be the main consideration, for on that welfare depend the health, the happiness and the usefulness of the developing generation.

THIS TAB
protects
THE PURITY OF
BABY'S FOOD

WITH this new Hygeia Nipple, your fingers need never touch the sterilized inside surface of the nipple. Just grasp the tab and slip the nipple on or off in a moment!

This new nipple is just one of the sanitary features of the famous Hygeia Nurser . . . the Nurser endorsed by nurses and physicians. Used in more than 2000 hospitals. The wide-mouthed bottle is easily cleaned, easily sterilized, easily filled. The Hygeia Nipple is shaped like mother's breast.

GUARANTEE: Each Hygeia Cell is guaranteed to withstand all temperature changes encountered in its regular use. Any defective Cell will be promptly replaced.

Hygeia Nursing Bottle Co.
Buffalo, N. Y.

Hygeia
THE SAFE
NURSING BOTTLE

BANANAS ARE ESSENTIAL TO DIET IN CELIAC DISEASE

A peculiar characteristic of bananas in the treatment of celiac disease was explained by Dr. Sidney V. Haas, New York, who spoke in New Orleans at the opening meeting of the Section on Diseases of Children of the American Medical Association.

Bananas were recommended as an essential in the diet because the sugar in this fruit was found to be perfectly tolerated while all other carbohydrates, including all starches and sugars, are not tolerated by the child's digestive apparatus. Celiac disease, a digestive disorder of children, characterized by a lack of muscle tone and marked distention of the abdomen, produces irritability and lack of appetite, and is detrimental to proper growth. The basis of treatment lies in a diet rich in proteins. A special milk from which the sugar has been removed must be used, for the child with celiac disease cannot tolerate milk.

The reason why bananas can be used in almost any quantity is not fully understood, but it is known, Dr. Haas said, that the banana has the power to break up starches and to convert cane sugar into fruit sugar. A banana powder has recently been prepared that can be used instead of the fresh fruit. All vitamins except vitamin D are found in this fruit.

It is sometimes necessary to keep a child on this diet for as long as a year until he begins to improve and grow normally.

PIONEERS OF MEDICINE

(Continued from page 800)

years, and in 1924 he was created a baron.

Many other honors were bestowed on him at home and abroad, but he continued to be a modest seeker after knowledge, his independence of character and transparent honesty earning the respect of all. One of his associates, Dr. Miyajima of the Kitasato Institute, has recalled a characteristic trait of his chief. Kitasato was in the best sense of the term a hero worshiper. Koch was his hero. When Koch visited Japan, Kitasato waited on him as a son waits on his father in Japan. And when Koch died, Kitasato built a shrine in the inner court of his institute in remembrance of his late teacher. At every anniversary of Koch's death, Kitasato commemorated it with appropriate Shinto ceremony.

LATE SUMMER THOUGHTS FOR THE YOUNG MOTHER

Summer months are particularly trying for the small infant. A few hot-weather hints from the department of health of the state of Maryland may solve the late summer problems of the young mother. Babies nursed by their mothers are less susceptible to serious digestive ailments, which are particularly prevalent during the summer months. Clean cow's milk, modified under the doctor's directions to suit the needs of the individual baby, is the best substitute for the mother's milk. If a suitable quality of cow's milk cannot be obtained, unsweetened evaporated milk can be used. If an equal quantity of water is added to the evaporated milk, whole cow's milk is reproduced.

Twenty minutes is long enough for a feeding. All cow's milk used for infant feeding should be boiled for two or three minutes before preparing the feedings. It should then be cooled as rapidly as possible, put on ice and warmed as needed.

Flies not only bother the baby a great deal if they are allowed to buzz around him but also are dangerous enemies of the child because they are carriers of disease. Protect the baby by screening the kitchen and other rooms of the house and cover his carriage or crib with mosquito netting when he sleeps outdoors.

The doctor should see the well baby at least once every month in the summer.

"TRENCH MOUTH" CASES ARE INCREASING

Statistics show that "trench mouth," or Vincent's infection, a highly communicable disease of the mouth, is on the increase. It was formerly believed that kissing spread the disease considerably, but more recently it has been suggested that the depression may account for the increasing number of cases, worry giving rise to decreased resistance to the infection. Some authorities claim that "trench mouth" is a systemic disease and that mouth conditions are merely symptoms. The number of cases has increased 100 per cent in New York State within the last nine years, the educational committee of the American Dental Association reports.

So great is the effect of cleanliness upon man that it extends even to his moral character.—Rumford.

"Though it costs only half as much I like it twice as well"

COLGATE'S costs me half what some people pay for toothpaste. And I'm saving these quarters because of something my dentist told me. 'Judy,' said he, 'toothpaste can clean—nothing else. Now the best one I know of is Colgate's. Those people have studied how to clean teeth for thirty years. Not how to cure—that's *my* job—but how to clean teeth thoroughly and honestly. So my advice to you is not to pay out money for fancy-sounding claims—because Colgate's does all that any toothpaste can do.' That seemed sensible to me. So—frankly, if Colgate's cost *twice* as much, I'd still like it. But since it costs only a quarter—I like it *twice* as well."

This seal signifies that the composition of the product has been submitted to the Council and that the claims have been found acceptable to the Council.

ACCEPTED AMERICAN DENTAL ASSOCIATION

Protect *your* BABY at Night....*the Time of Most Danger!*

RESPIRATORY diseases, colds and pneumonia now take the lead in infant diseases that are serious and many of baby's colds are caused by baby kicking off his covers.

Snuggle Bunny crib cover was invented to prevent baby from becoming uncovered at night. It is so scientifically designed that baby has more comfort and freedom of movement than he has when pinned under clumsy blankets. With Snuggle Bunny he can lie in any position. He can put his hands over his head. Yet at all times he is perfectly covered in the loose fitting Snuggle Bunny.

Finger sucking is prevented at the most important time—just before going to sleep and immediately after waking.

MORE REST FOR MOTHER

During baby's early years mother needs more strength and energy than at any other time. Yet many mothers lie half awake the whole night to be sure that baby is covered.

Snuggle Bunny gives mother sound sleep and more rest. Baby sleeps longer in the morning because he is comfortable and, because of the ingenious cut-out back, Snuggle Bunny is always dry, making frequent laundering unnecessary.

Write for the booklet, "Sleep Baby Sleep" and look for the store in your town that handles Snuggle Bunny—but insist upon the genuine **scientifically designed crib cover.**

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Mothers—Write for This Free Book!

It tells you how to develop proper sleeping habits for baby. Address SNUGGLE RUG COMPANY, Dept. 932H, Goshen, Indiana

SNUGGLE BUNNY

"Science offers no substitute for the intelligent, common sense training of a real home."

Says **DR. ESTHER L. RICHARDS** *in*

BEHAVIOUR ASPECTS OF CHILD CONDUCT

Every parent should read this practical, thought provoking book. Send for it today. It answers questions that modern parents are most concerned with. Price, $2.50

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ELECTRICITY MAY CAUSE SEVERE ACCIDENTS IN HOME

It is generally believed by the public that 110 volts of electric current can do no harm, even in direct contact. This opinion is erroneous and should be discredited. Severe burns and deaths have actually occurred from contact with electricity at 110 volts pressure.

Worn insulation, corrosion and loose connections are the causes of most of the accidents associated with electricity in the home. Accidents of this kind are more liable to occur if the skin is wet. When dry, the skin provides good insulation for the body. In washrooms, kitchens and bathrooms, when the hands frequently are wet, severe shocks occur as persons attempt to turn lights on or off or to move or regulate heating appliances.

Have worn or chafed insulation on electric wires repaired without delay. Purchase only first class electric appliances. Do not touch cords or fixtures with one hand and stoves, radiators or water pipes with the other. Never touch any electrical cord or fixture when you are in a bathtub. Use as much precaution when installing radio equipment as you would in wiring electric lights. Never leave the current turned on flatirons, toasters or percolators when they are not in actual use. These warnings are sent from the U. S. Public Health Service.

AUTOCIDES OVERSHADOW HOMICIDES

The present crime situation and the suicide epidemic are deserving of, and have received, the most widespread attention. Protection of the public from criminals is certainly a task of major importance, as is also the safeguarding of people from themselves.

Yet, in terms of lives lost, the motor vehicle accident problem far overshadows both homicides and suicides. The National Safety Council says that more than three times as many persons are killed by motor vehicles as meet death at the hands of criminals. Also for every suicide there are approximately two motor vehicle deaths.

Any fair-minded person can draw but one conclusion from this three-cornered nation-wide race to the cemetery. Suicides and homicides are certainly important, but the motor vehicle death toll, which last year claimed 33,500 lives, is a direct challenge to our people.

It is high time for the individual driver to realize and accept his full responsibilities as a motorist.

REPRESSED EMOTION MAY LEAD TO ILLNESS

If emotions are thwarted or repressed, ills without apparent physical basis may result. In such disturbances, it is necessary to treat not the organs directly but the emotional conflict responsible for the trouble. The promotion of mental health and an understanding of the importance of emotions form an important part of all public health teachings, the New York State department of health maintains.

When the emotions are aroused, personality is influenced and the body as a whole may be disturbed. It is evident that some emotions as seen in grief, fear, disappointment, thwarting of desires or unpleasant surroundings may disturb the organs of the body and the general health of the person. Disgust may produce vomiting; hunger, gnawing pains in the stomach; and fear, palpitation of the heart.

Every one has heard or read of the remarkable "cures" brought about by "magic" healers. These sudden "cures" occur when there is no physical basis for the sickness and no change has taken place in body structure. In general such a patient spends much time and money on his suffering without relief from any source.

HOME IS NOT "HAVEN OF SECURITY"

Approximately 46 per cent of all persons injured in accidents of all kinds last year received their injuries in or about the home. Out of a total of 9,403,000 persons injured in industry, on the highways, in other public places and in the homes, 4,350,000 were hurt in what is erroneously known as "the haven of security."

For every home fatality, according to "Accident Facts," recently published by the National Safety Council, there were about 150 injuries. The ratio in industry ran about 90 injuries for each death, and on the highways thirty-five persons were injured for each one killed.

Of the 9½ million accident victims last year, 97,000 were killed, 348,000 were permanently injured, and 9,055,000 received temporary injuries.

In other words, if you meet with an accident there is one chance in ninety-seven that you will be killed and about one chance in twenty-four that your injuries will result in permanent disability.

It is not life to live but to be well.
—*Martial.*

REVOLTING!
the job of washing dirty handkerchiefs

Why do it?
use
KLEENEX
disposable tissues
and destroy

THE worst job on earth! That's what any woman says about washing dirty handkerchiefs.

Why inflict this repulsive job on yourself, or on anyone else? Use Kleenex, as so many other people now are doing. They started to use this health handkerchief during colds—then found it impossible *ever* to return to the old, unsanitary way.

Kleenex is made of soft rayon-cellulose in convenient squares, handkerchief size. These disposable tissues are softer than any handkerchief—downy, dainty, gentle, absorbent.

Costs less than laundering

If you have been sending washing out, you will find Kleenex a great saving over laundry bills. You can use many tissues for the cost of laundering one handkerchief.

Try some of the other uses, that Kleenex fans have written us about! Kleenex for applying ointments and lotions. Kleenex for the baby. Kleenex for applying cosmetics—and for removing them. All drug, dry goods and department stores sell Kleenex.

New large size and rolls

Kleenex is now available in two sizes which come in Cellophane-wrapped packages. The new, large package contains tissues three times usual size. And Kleenex also comes in convenient 25-cent rolls.

For a sample of Kleenex write the Kleenex Co., Lake Michigan Bldg., Chicago, Ill.

KLEENEX *disposable* **TISSUES**

HAVE YOU TRIED
'KERFS?

. . . a formal version of Kleenex . . . exquisite tissues, smartly bordered . . . 4 thicknesses instead of 2. Nice enough to appear as "regular" handkerchiefs or tea napkins. New package now only 25 cents.

Pyrex

NURSING BOTTLES
recommended for safety

● Here are the reasons why Pyrex Brand Nursing Bottles are the doctor's choice for thousands of babies all over the country:

Made of heat-resistant glassware, Pyrex Nursing Bottles minimize breakage in heating milk and sterilizing . . . they insure your baby uninterrupted feedings.

On the outside they're six-sided and easy to hold; on the inside, free from sharp angles and quickly cleaned. Ounces and half-ounces are plainly marked.

The 8-oz. size, shown here, with narrow neck or wide mouth, is 25¢. The handy new 4-oz. size, narrow neck, only 15¢. "PYREX" is the registered trademark of Corning Glass Works, Corning, N.Y. and indicates their brand of resistant glass. Prices slightly higher in the West and Canada.

Try Shopping Among HYGEIA Advertisements

An AID *to*
CONVALESCENCE

A Camp Support (No. 80) designed for use after stomach or gall bladder operations and any high incisions; for diaphragm support, umbilical hernia and many other uses. For convalescence, it affords support without discomfort. Light and easy to adjust. Shown also is a Bust Support (No. 5043), a sling from the shoulder which lifts but does not constrict. Pressure of both is regulated by Camp Patented Adjustment. Endorsed by leading physicians.

Write for special information.

CAMP

Physiological *Supports*

S. H. CAMP AND COMPANY
Manufacturers, JACKSON, MICHIGAN

Chicago
1058 Merchandise Mart

New York
330 Fifth Avenue

GOOD SWIMMERS NEED COMMON SAFETY RULES

A warning is sent from the New York Life Insurance Company to prevent fatalities among good and expert swimmers. Self confident and at home in the water, good swimmers often overestimate their strength and ability, take foolhardy chances and disregard common safety rules. Many of these rules are applicable also to beginning swimmers and bathers.

1. Do not go swimming alone or at night.
2. Do not overestimate your strength.
3. Never swim across a lake or river in unknown or dangerous waters unless accompanied by a boat and a level-headed companion trained in life saving.
4. At the first opportunity learn how to rescue drowning persons without unduly endangering your own life and learn how to administer artificial respiration.
5. If possible before starting to a rescue, call to some one to get a rope or a boat. Remove heavy clothing, for this time will be well spent.
6. Do not swim for at least two hours after eating.
7. Never drink any cold beverages immediately before going swimming.
8. Learn how to enter and leave boats and canoes and how to manage them properly. Beware of sudden squalls and choppy waters.
9. Do not duck or tease friends who are not good swimmers.
10. Never dive in unknown, shallow or rocky waters. Even in clear waters remember that a deep dive is a dangerous dive.

LABEL POISONS AND KEEP THEM OUT OF SIGHT

Acids, poisons, antiseptics and other dangerous drugs should be kept labeled and out of the reach of children. This precaution will safeguard adults as well as children. The curiosity of children and their willingness to try anything can badly endanger their lives unless parents take a bit of necessary precaution. Household lye looks sugary to children and holds a peculiar fascination for them. Concentrated household ammonia is also dangerous. Dr. Robert L. Swain, affiliated with the department of health of the state of Maryland, issues this warning.

Oh blessed health. Thou art above all gold and treasure.—*Sterne.*

Schools and Camps

Schools and Camps

FORK UNION MILITARY ACADEMY
Fully accredited. Prepares for college or business. Able faculty. Small classes. Supervised study. Lower School for small boys in new separate building. Housemother. R. O. T. C. Fireproof buildings. Inside swimming pool. All athletics. Best health record. Catalog 35th year. Dr. J. J. Wicker, Pres., Col. N. J. Perkins, H. M. Box H—Fork Union, Virginia.

Schools for Backward Children

TROWBRIDGE TRAINING SCHOOL
Home school for nervous, backward children. *Best in the West.* Beautiful buildings. Spacious grounds. Experienced teachers. Individual supervision. Resident physician. Enrolment limited. Endorsed by physicians, educators. Booklet. E. Haydn Trowbridge, M.D., 1810 Bryant Bldg., Kansas City, Mo.

Beverly Farm (INC.) *A Home and School for Nervous and Backward Children and Adults*
220 acre farm. 7 bldgs. New school gymnasium. 35th year. Industrial and school training given. Dept. for birth injury cases. GROVES BLAKE SMITH, M.D., Supt. **Godfrey, Ill.**

Schools of Nursing

ENGLEWOOD HOSPITAL Be a Nurse. Three year course. State accredited. Beautiful nurses' home. Full maintenance and monthly salary. Four year High School course required. For further information, write to Englewood Hospital, 6001 South Green Street, Chicago, Illinois.

SEX EDUCATION PAMPHLETS

For Boys

JOHN'S VACATION—For boys from 10 to 15 years old.

CHUMS—For boys from 16 to 18 years.

For Girls

MARGARET, THE DOCTOR'S DAUGHTER—For girls from 12 to 14.

LIFE'S PROBLEMS—For young women from 15 to 18.

Prices—Single copies of any of the above pamphlets, 25 cents prepaid. In lots of four, 75 cents prepaid. Discount on quantities.

AMERICAN MEDICAL ASSOCIATION
535 N. Dearborn St., Chicago

SAFETY EDUCATION MAGAZINE

For teachers and pupils — ***$1.00 a Year***

Supplies you with safety material throughout the school year — lesson plans, stories, plays, informational articles and colored poster supplement.

ONE PARK AVE., NEW YORK CITY

A SENSIBLE PRECAUTION

Among groups of school children, there are always a few colds which threaten *your* children. That is why it is advisable to spray young noses and throats with an approved antiseptic solution, as a safeguard. When a cold starts, either in adults or children, your physician should be consulted immediately but the use of a DeVilbiss Atomizer regularly as a preventive measure is only a sensible precaution.

DeVilbiss

★ ★ ★

The DeVilbiss Company, Toledo, Ohio, headquarters for atomizers and vaporizers for professional and home use.

Accepted by the Council on Physical Therapy of the American Medical Association

The A.P.-UPLIFT

U. S. Pat. 1,702,922 —Invented by Mme. Poix to create the stylish upward contour; to relieve pain and remove cause of many bust troubles; also for pre-natal and nursing periods.

Sizes 30 to 44

Pink Repp.....$1.00
Pink Tussah Silk... 1.50
Pink Mesh or Jersey 2.00

If not at dealers, order direct giving exact bust measure next to skin. Booklet free on request.

G. M. POIX, Inc.
103 Madison Ave.
New York, N. Y.

ARTERIES ARE REGISTRY OF INDULGENCES

"Arteriosclerosis is a condition of the arteries in which their elasticity is lost, and the muscular tissue and the elastic tissue in their walls is replaced—first with inelastic connective tissue and later with deposits of lime. The lining of the artery becomes roughened and at times covered in spots by flakes of lime deposit. When the arteries become thus hardened and inelastic, they no longer properly assist in the circulation of the blood but rather retard it, and thus throw increased work on the heart. They no longer help to maintain an even pressure of the blood; and as their caliber or inside diameter is diminished, particularly in the smaller vessels, they do not deliver enough blood for the adequate nourishment of the parts. The artery walls having lost their elasticity have a tendency to become somewhat brittle and are more liable to rupture on any increase of blood pressure or other strain," the *U. S. Public Health Service* reports.

Hardening of the arteries is a result of old age, infection or high blood pressure. In fact, the arteries are the registry of our indulgences. Overeating and overexercise increase the strain of the arteries. Tuberculosis, typhoid and pneumonia are liable to be followed by arteriosclerosis. Focal infections, such as diseased tonsils, infected teeth or infected sinuses, are believed to be a factor in causing arteriosclerosis.

PAIN IS RARELY FELT IN EARLY CANCER STAGES

Rarely is there pain as cancer begins to take its insidious hold on the human body. By the time pain is felt, the cancer is usually far advanced in its development. An unusual growth, a slight swelling, a thickening on the tongue or lip or changes in a mole or wart are some of the most obvious indications of cancer in its earlier stages. Any continuous discharge from a sore or from the nipple in breast cancer and any blood in the urine or in the stools are also early symptoms. An unusual discharge and later a hemorrhage often give warning of cancer of the female genital organs. These constitute some of the earlier signs of cancer, Dr. R. V. Brokaw of the American Society for the Control of Cancer points out.

Choose your food wisely and chew your food well.—*American Dental Association.*

Build up the child for the opening of school

Many mothers have found that Horlick's Malted Milk given as a supplementary food definitely promotes energy and sound nerves, fortifying the child to meet the demands of the return to school. Scientific evidence lends confirmation—the results of a series of experiments conducted by the Dept. of Pediatrics, Marquette University Medical School, indicate that Horlick's Malted Milk, prepared simply with water, adds zest for the regular meals and at the same time nourishes and strengthens.

Horlick's **THE ORIGINAL**

Malted Milk

ACCEPTED AMERICAN MEDICAL ASSN.

In powder or tablet form
Rich in Vitamins A, B and G

Give your child a glass of Horlick's in mid-afternoon and just before going to bed, and note the improvement in his strength and energy. Send the coupon below for a weight chart and watch the record of his rapid progress.

HORLICK'S MALTED MILK CORP.
Dept. H-19, Racine, Wis.

Please send me ..... weight charts for preschool children and ..... charts for school children for recording by a graph the weight progress of individual children.

Enclosed is 25c for which please send me a Ration Tin of Horlick's Lunch Tablets.

☐ Natural flavor

☐ Chocolate

(Sufficient nourishment to sustain one person for 24 hours.)

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5 SECURITIES UNDER 10

Are you looking for an authoritative "boiled down" list of five outstanding securities recently selling under $10 per share? You of course are interested only in companies in sound financial condition and with good management and prospects. You may have a new compilation of 5 such low priced securities if you send $1 at once for the next 8 issues of The Financial World.

If you mail your order within the next ten days, you will also receive the following much talked of reprints: "25 Probable Leaders of the Next Market," "What Market Policy Now," and "Sound Investment Rules." Attach your address and dollar to this "ad." Mail to address below. Do it before you turn to the next page.

THE FINANCIAL WORLD

America's Investment and Business Weekly

53 H. G. Park Place **New York, N. Y.**

HAVE YOU CHILDREN?

or

ARE YOU INTERESTED IN ANY?

If your answer is yes,
let us ask you
one more question

HAVE YOU EVER READ THE NATIONAL PARENT-TEACHER MAGAZINE?

If not, write for a sample

(Mention Hygeia)

CHILD WELFARE

The National Parent-Teacher Magazine

1201 16th Street, N.W.

Washington, D.C. $1 a Year

Do You Need—

HEALTH MATERIAL?

The American Medical Association has a large amount of authentic health material in the form of pamphlets, posters, lantern slide exhibits, etc. It covers a wide range of subjects. Complete catalogue listing this material with prices will be sent on request.

TEACHER, AS EXAMPLE, NEEDS CONSTANT CHECK UP

The teacher who is teaching health daily needs to check up on herself constantly. The following questions serve as a test of her personal hygiene:

1. Do you have an annual health examination?

2. Is the clothing removed when examination is made?

3. Does the examination include weighing, measuring, general appearance, health habits, living habits, nutrition, skin, vision, hearing, teeth, nose, throat, glands, pulse, heart, lungs, abdominal and pelvic organs, posture, feet, urinalysis, blood count, blood pressure and nervous system?

4. If defects are found, do you have them promptly corrected?

5. Do you follow the physician's health directions?

6. Do you have follow-up examinations during the year?

7. Do you take exercise at least one hour a day in the open?

8. Do you endeavor to be an example of health and of personal hygiene?

9. Do you have some outside recreation at least once a week?

10. Are you enthusiastic and vital in your work?

11. Are you careful and regular in your living habits, food habits and in water drinking?

12. Are you practicing daily what you preach?

—State Education Bulletin of New Jersey.

PROPER HOSPITALIZATION PREVENTS BLINDNESS IN INFANTS

Since it is known that ophthalmia neonatorum, a disease of the eyes which frequently causes blindness in new-born infants, can be prevented and cured, it is indeed worth while to take the necessary precautions. In viewing a number of cases, the loss of vision that occurred in some was attributed to the following causes: (1) failure to use a prophylactic at birth; (2) too little effort to hospitalize these cases; (3) discharge of the patient from the hospital before obtaining two negative smears; (4) failure to recognize the danger of an infected eye when the smear is not positive; (5) lack of consultation with ophthalmologists, even though positive smears were obtained. *The Journal of the American Medical Association* in a recent editorial advocates adequate hospitalization and care of babies to prevent blindness from this cause.

NOW, (IN SILVER PACKAGE) *the* Famous **DERBAC SHAMPOO** Comes in More Convenient Form

SPEEDIER, handier, more efficient—that's DERBAC in its new shape and modern dress.

The same effective pine tar and cocoanut oil, *medicated* formula, recommended by Boards of Health, physicians and nurses everywhere for dandruff and scalp infections—but now in *easier-to-use shape.*

Fits the hand and head. Massages as it lathers. Rinses *instantly.* Foil base forms a self-contained soap dish. Cellophane-wrapped.

***Also a NEW* HEALTH DERBAC** (IN GOLD PACKAGE)

Same shape—same conveniences—same formula without the special medication. *Ten luxurious shampoos for hair health and hair beauty, 25 cents.*

Ask your druggist for the *NEW* DERBAC Shampoos. Write us if he hasn't yet stocked them.

Mail coupon for "Funny" Booklet—a delight to the children.

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CEREAL SOAPS CO., INC., Dept. H-9,
334 East 27th St., New York, N. Y.
Please send me free copy of your "Funny" booklet.

Name.....

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CONCISE—AUTHORITATIVE—MATTER-OF-FACT
—COVERS EVERYTHING

"A Child is to be Born"

Reprinted for expectant mothers from the series in "Hygeia"

Symptoms—Exercise Diet—Clothing **15c** American Medical Assn. 535 N. Dearborn St., Chicago

PATIENT WILL DIVULGE WORRIES TO SOCIAL WORKER

"An adequate knowledge of the patient's background is the cornerstone of any medical social case," Rachel S. Ward writes in the *Western Hospital Review.*

In large hospitals, clinics and medical office buildings, a physician may have a patient under his care for many months and have little, if any, personal knowledge of the man himself—the physical environment in which he has been living, his family life or the number of his dependents.

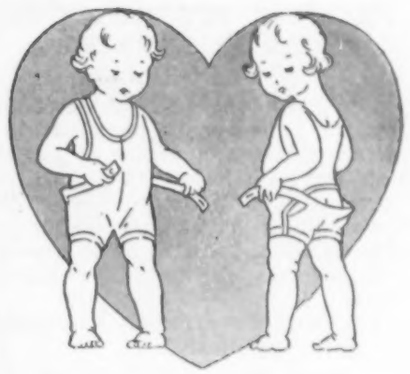
In many cases a social worker can obtain more of the patient's background than the doctor is able to, because the social worker stresses behavior and attitudes of the patient.

The author describes the instance of a patient admitted to the hospital with scarlet fever. When it was time for the patient to return to his home and work, he complained of being ill. The social worker had a short talk with him and learned that his difficulty was worry. He could not overcome the fear that his illness might be caused by the poisons in a chemical plant in which he was employed, although the working conditions were good. When the ward surgeon explained that his illness had no connection with the poisonous gases, his symptoms disappeared, and he returned to work in a short time.

This illustration is typical of the reasoning that may cause mental disorders in those who are or have been ill. In instances such as this the doctor and social worker can cooperate valuably.

MEDICAL SOCIETY OFFERS LEAFLET TO EXPECTANT MOTHERS

A leaflet, entitled "A Message to Expectant Mothers and Fathers from the New York State Medical Society," has been published by the Medical Society of the State of New York; it is intended for physicians of that state for distribution to their patients. It has recently been announced that copies of the pamphlet will be sent on request to physicians outside of the state of New York. In this work the Medical Society is cooperating with the Maternity Center Association of New York. The circular outlines the fundamentals of maternity hygiene, advising medical care from the time the woman believes she is pregnant until the doctor says she is able to resume her regular activities and responsibilities and to care for her baby.



CAN YOUR BABY DRESS HIMSELF?

AFTER long experiment and careful study, Vanta has developed a group of Self-Help Garments which solve the difficult problem of teaching a child to dress himself. These garments are so scientifically constructed that toddlers can operate them themselves. Fastenings are few in number and especially made for tiny fingers. A Red "Valentine" Heart Label, attractive to the baby, *always* marks the front and outside.

Note especially the Vanta Self-Help Union Suit illustrated. Just one front button controls the drop seat. When the button is unfastened the belt slips through loops on either side until the seat is completely opened. Yet the belt cannot possibly slip entirely through and is always in sight and within easy reach. Merely drawing the ends of the belt forward raises the seat and closes it. Leading stores all over the country sell Vanta Self-Help Union Suits, Sleepers, and many other Vanta Self-Help Garments for Boys and Girls, in sizes 2 to 12 years. Or write for the name of your nearest dealer to the Earnshaw Knitting Company, Newton, Mass.

A Wonderful Free Booklet

Earnshaw Knitting Company,
Newton, Massachusetts.
Please send me without charge of any kind free copy of "The Toddler" which covers "the neglected age" from two to six years. Tells how to train your child to be resourceful rather than dependent upon others.

Name.....

Address.....

City..... State.....

PHYSICAL EFFICIENCY IS GOAL IN EARNING BADGES

Playgrounds throughout the country are encouraging physical efficiency through a series of badge tests for both boys and girls, prepared by the National Recreation Association. As measurable standards to show growth, development and progress, the tests are widely used.

The tests are planned to embody the following ideals:

1. Every boy ought to be physically efficient.
2. Every girl should have poise and control over her body.
3. Every boy and every girl should be able to attain a minimum physical standard.
4. Every boy and every girl passing the test may wear this badge, which stands for physical efficiency.
5. Boys and girls from every part of America are passing the same tests and wearing the same badges.
6. The boys and girls who are physically efficient are preparing themselves for efficient citizenship.
7. To raise the standard of physical efficiency among the girls of America is to give greater freedom, beauty and power to the women of America.

The tests require little equipment and they have proved valuable in drawing the attention of thousands of boys and girls to their own physical condition. Children of the playgrounds find their interest in athletic events sustained.

TO TAKE UNNECESSARY RISKS IS NOT BRAVERY

If every boy and every girl stopped to realize that more deaths of children from 5 to 14 years result from accidents than from any other cause, there is reason to believe that they would make it a matter of personal responsibility to understand and practice the principles of safety.

Safety depends on the carefulness and thoughtfulness of each individual. Some children believe that safety is rather unattractive, that taking unnecessary risks is adventurous and brave. Nothing could be more untrue, for risks result often in injury that keeps a person from participating in really worthwhile adventures later.

Not only can children prevent accidents occurring to them, but in many ways they can help others in school, at home or on the streets. An editorial in *Boy's Life* encourages every boy to do his part in preventing accidents.

CAN YOU ANSWER THESE??

What is your State Bird?

What is the October birthstone?

Do butterflies travel thousands of miles?

How are hybrid flowers produced?

What insect lives beneath the water and strains his food?

What is the wolf of the stream?

Do squirrels migrate in herds?

These and many more questions are answered in the fascinating stories that will appear in the October issue of Nature Magazine. What could be more fascinating than the marvels of insects that live by fishing; of moths that migrate like birds; of wolf packs moving in serried ranks across the plains?

Let Nature Magazine introduce you to all these wondrous things going on in this world about you, unknown by many, unobserved by most of us. Start with the October Issue of Nature Magazine which will contain twelve pictures of birds in full color.

And the young people will specially enjoy the Nature Rambles with Uncle Dick, a department written for their benefit.

The regular price of NATURE MAGAZINE is 35c a copy. But by mailing the attached coupon with your remittance you may have the next 6 issues

for only $1.00

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1214 16th St., N.W., Wash., D. C.

Send me the next 6 issues of your magazine. My remittance for $1.00 is enclosed.

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FIRST AID NEEDS SAFETY FIRST IN HOME

The days of goose grease salves and of dried herbs hanging from rafters have passed. It is inadvisable for families to keep a large collection of household remedies, but there should be a few for emergency use. The following articles should be kept on hand: a clinical thermometer, sterilized gauze for the dressing of wounds, a roll of adhesive plaster, a variety of prepared first-aid dressings which may be purchased at any drug store, aromatic spirits of ammonia, carbolated petrolatum or a similar preparation for application on small burns, and tincture of iodine or mercurochrome-220 soluble.

When a doctor prescribes a medicine, the unused portion should be thrown away and not kept for future use for some one else who may become ill. Moreover, drugs deteriorate with age. The harm that can result from a medicine chest overcrowded with old medicine is obvious. Poisons kept on the same shelf with medicines have caused the death of numerous adults.

Cold and warm water are valuable in first-aid applications but must be used properly. Injured eyes may be bathed in cold water. Hot water should never be applied to the eye except by a physician and for pannus. Poultices are dangerous. The use of match sticks and toothpicks to remove foreign bodies from the eye is dangerous.

Warm or hot water in bruises or sprains may be applied to keep down the swelling so that a correct diagnosis can be readily made by the doctor.

Scratches and cuts should be sterilized by iodine or mercurochrome solution. Large cuts require surgical attention.

For many persons the medicine chest is expected to hold the cure for a headache. Pink pills in this instance may have a deleterious effect on the heart and do not correct the cause of the headache, which may arise from anything from eyestrain to smallpox.

One-half teaspoonful of aromatic spirits of ammonia should be used for faintness. The best treatment is to have the patient lean far forward while sitting on a chair or to press firmly on the abdomen while the patient lies flat on the back.

These practical home suggestions are described in *Pennsylvania's Health*, the official journal of the Pennsylvania department of health.

India is practically a soapless country.

CHILD LABOR INCREASES AS DEPRESSION PREVAILS

"Child labor, an evil which unfortunately prevails during periods of prosperity, becomes a more aggravated problem when unemployment prevails. Reprehensible as it always is, it becomes increasingly so when the heads of families with children dependent upon them are deprived of an opportunity to earn a decent living because these child victims of industry and agriculture are employed long hours at low wages." In a pamphlet published by the National Child Labor Committee, Owen D. Young interprets child labor in the face of present conditions.

The social effects of child labor, moreover, are cumulative. It is proved that if no more than 100,000 children leave school prematurely for work each year, within the span of a single lifetime 7 million persons will have begun their working life under a great educational handicap.

Much of the work that children do involves danger and long hours, whether it is in the country or in the city. Pulling out weeds between long rows of baby onion and beet plants for from twelve to fourteen hours a day is simply "a modern version of slave labor with the overseer between the laborer and the master," Dorothy Canfield Fisher, the novelist, writes. Character building is entirely absent in the street work of selling newspapers and magazines, work that many children do. The risks these boys take in traffic congestion is greater than many persons realize.

It is not the duty of children to help out in cases of poverty or unemployment. The community certainly should not stoop so low that it must provide for its poverty-stricken members at the expense of child labor. If school work does not interest the child, he should be given vocational guidance in order to learn what kind of work he really can do well.

"Moderation in everything—particularly diet; a placid temperament; a good vigorous digestion, and at least eight and a half hours' sound sleep out of the twenty-four—we follow this now." This statement expresses the creed of the Centenarian Club recently formed in London. Five hundred persons are members of this club. They are largely of the professional class and are between 50 and 60. The statement quoted above tells how they hope to be able to live for at least fifty more years.

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will give you the news of vital interest in Industry and Science; how the great Research Laboratories are finding new ways to utilize known materials and discovering new materials and new methods to increase our economic efficiency, thus helping to draw us out of the present stagnation.

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is a little book of 248 pages crammed full of useful and interesting information on every conceivable subject.

Both subscription and Annualog for the unprecedented price of $3.50.

MAIL THIS COUPON AT ONCE

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24 W. 40th Street
New York, N. Y.

As a new subscriber, I am taking advantage of your offer of a one year subscription to SCIENTIFIC AMERICAN and the ANNUALOG for which I enclose $3.50.

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NIGHT WATCHMAN—WITHOUT PAY

HE KNOWS by heart the nocturnal voice of every dog in the neighborhood. He often hears the milkman make his morning rounds. Sleep . . . sleep. If *only* he could sleep.

If this is a night-time portrait of yourself, you may find that coffee is the root of your trouble. For coffee contains caffein—a drug stimulant that in thousands of cases causes sleeplessness, nervousness or indigestion.

If you are one of those with whom coffee does not agree, give it up—and let Postum make it easy for you to do it. Postum *will* help you, for it is so good that you will soon forget all about coffee. *And Postum cannot do you harm.*

Postum is a wonderful drink in its own right. First it tempts with a delightful aroma. Then it persuades with its rich, full-bodied flavor. And Postum contains no caffein or other stimulant. It is made only from whole wheat and bran roasted to a golden-brown, and slightly sweetened. Two and a half million families drink it regularly.

Postum comes in two forms, Postum Cereal, the kind that is boiled, and Instant Postum, made instantly in the cup. Instant Postum, made with milk and served either hot or iced, is helpful to people who are under-nourished. It is so good that it is relished even by those who ordinarily don't like milk. Postum is a product of General Foods.

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